



circuit breaker 3VA1 IEC Frame 160 breaking capacity class H $I_{cu}=70 \text{ kA} @ 415 \text{ V}$
 4-pole, line protection TM240, ATAM, $I_n=80 \text{ A}$ overload protection $I_r=56 \text{ A} \dots 80 \text{ A}$
 short-circuit protection $I_i=5 \dots 10 \times I_n$ neutral conductor protection 100% terminal
 connection shunt trip (STL) 220-250 V DC; 208-277 V AC 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	TM240
protection function of the overcurrent release	LI
number of poles	4
design of the auxiliary release	shunt trip (STL)
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	600 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	19.2 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	6.4 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	1.301 kg
Current	
operational current	
• at 40 °C	80 A
• at 45 °C	80 A
• at 50 °C	80 A
• at 55 °C	78 A
• at 60 °C	77 A
• at 65 °C	75 A
• at 70 °C	74 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

<ul style="list-style-type: none"> • at 500 V • at 690 V 	10 kA 10 kA
operating short-circuit current breaking capacity (Ics) <ul style="list-style-type: none"> • at 240 V • at 415 V • at 440 V • at 500 V • at 690 V 	100 kA 70 kA 40 kA 5 kA 5 kA
short-circuit current making capacity (Icm) <ul style="list-style-type: none"> • at 240 V • at 415 V • at 440 V • at 500 V • at 690 V 	220 kA 154 kA 121 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

Adjustable parameters

product feature / for L-tripping / can be switched on/off	No
adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic <ul style="list-style-type: none"> • minimum • maximum 	56 A 80 A
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic <ul style="list-style-type: none"> • minimum • maximum 	1 s 1 s
adjustable response value setting current (I _i) / for I-tripping <ul style="list-style-type: none"> • minimum • maximum 	400 A 800 A
adjustable setting current (I _{nN}) / for N-tripping <ul style="list-style-type: none"> • minimum • maximum 	80 A 80 A
design of the N-conductor protection	100%
product function / grounding protection	No

Mechanical Design

product component <ul style="list-style-type: none"> • undervoltage release • voltage trigger • trip indicator 	No Yes Yes
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 ²)
width	101.6 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	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

Auxiliary circuit

number of CO contacts / for auxiliary contacts	2
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Accessories

product extension / optional / motor drive	Yes
manufacturer's article number <ul style="list-style-type: none"> • of the supplied basic switch • of the integrated auxiliary switch/alarm switch 	3VA11806GF460AA0 3VA9988-0AA12

- of the integrated auxiliary switch/alarm switch
- of the integrated auxiliary trip unit

[3VA9988-0AB12](#)

[3VA9688-0BL33](#)

Environmental conditions

protection class IP / on the front	IP40
ambient temperature	
• during operation / minimum	-25 °C
• during operation / maximum	70 °C
• during storage / minimum	-40 °C
• during storage / maximum	80 °C
reference code / according to IEC 81346-2	Q

Approvals / Certificates

General Product Approval



EG-Konf.



CCC

[Confirmation](#)



VDE

[Miscellaneous](#)

General Product Approval

EMV

Test Certificates

Marine / Shipping



RCM

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS

Marine / Shipping

other



BUREAU
VERITAS



DNV



LRS



RMRS

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

[Miscellaneous](#)

other

Environment

[Confirmation](#)

[Miscellaneous](#)

[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=3VA1180-6GF46-0KF0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1180-6GF46-0KF0>

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

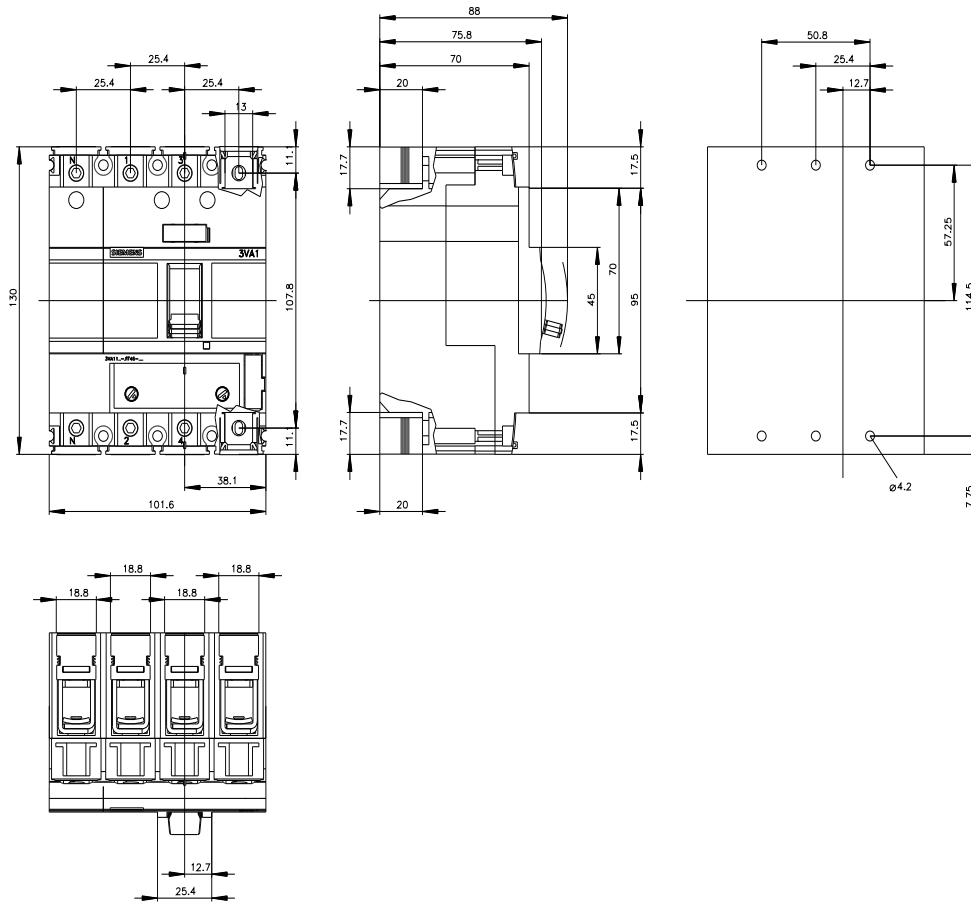
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1180-6GF46-0KF0

CAX-Online-Generator

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

Tender specifications

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



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