SIEMENS

Data sheet 3VA1180-6EF46-0AA0



circuit breaker 3VA1 IEC Frame 160 breaking capacity class H Icu=70 kA @ 415 V 4-pole, line protection TM240, ATAM, In=80 A overload protection Ir=56 A...80 A short-circuit protection Ii=5...10 x In N conductor unprotected terminal connection

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
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/retrofittable / short-circuit and overload proof	No
ground-fault monitoring version	Without
product function	
● communication function	No
● other measurement function	No
Net Weight	1.27 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 (Icu)	
● at 240 V	100 kA
● at 415 V	70 kA
● at 440 V	55 kA
● at 500 V	10 kA
● at 690 V	10 kA

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operating short-circuit current breaking capacity (Ics)	
● at 240 V	100 kA
● at 415 V	70 kA
● at 440 V	40 kA
● at 500 V	5 kA
● at 690 V	5 kA
short-circuit current making capacity (Icm)	
● at 240 V	220 kA
● at 415 V	154 kA
● at 440 V	121 kA
● at 500 V	17 kA
● at 690 V	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 (Ir) / of the L-trip / with I2t characteristic	
● minimum	56 A
● maximum	80 A
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic	
● minimum	1 s
● maximum	1 s
adjustable response value setting current (Ii) / for I-tripping	
● minimum	400 A
● maximum	800 A
adjustable setting current (InN) / for N-tripping	
● minimum	0 A
● maximum	0 A
design of the N-conductor protection	without
product function / grounding protection	No
Mechanical Design	
product component	
● undervoltage release	No
● voltage trigger	No
● trip indicator	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 mm²)
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	0
Accessories	
product extension / optional / motor drive	Yes
Environmental conditions	
protection class IP / on the front	IP40
ambient temperature	
● during operation / minimum	-25 °C
● during operation / maximum	70 °C

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• during storage / minimum	-40 °C
• during storage / maximum	80 °C

Environmental footprint

Environmental Product Declaration(EPD)	Yes
Global Warming Potential [CO2 eq] / total	190 kg
Global Warming Potential [CO2 eq] / during manufacturing	4.67 kg
Global Warming Potential [CO2 eq] / during operation	186 kg
Global Warming Potential [CO2 eq] / after end of life	-0.826 kg
reference code / according to IEC 81346-2	Q

Approvals / Certificates

General Product Approval

CCC EG-Konf. UK CA Confirmation CCC VDE

General Product Approval	EMV	Test Certificates		
Miscellaneous	RCM	Type Test Certificates/Test Report	Miscellaneous	Special Test Certificate

Marine / Shipping

ABS BUREAU VERITAS DNV LRS RMRS

CCS (China Classification Society)

other			Environment		
Confirmation	Miscellaneous	Miscellaneous	EPD	EPD	Environmental Confirmations

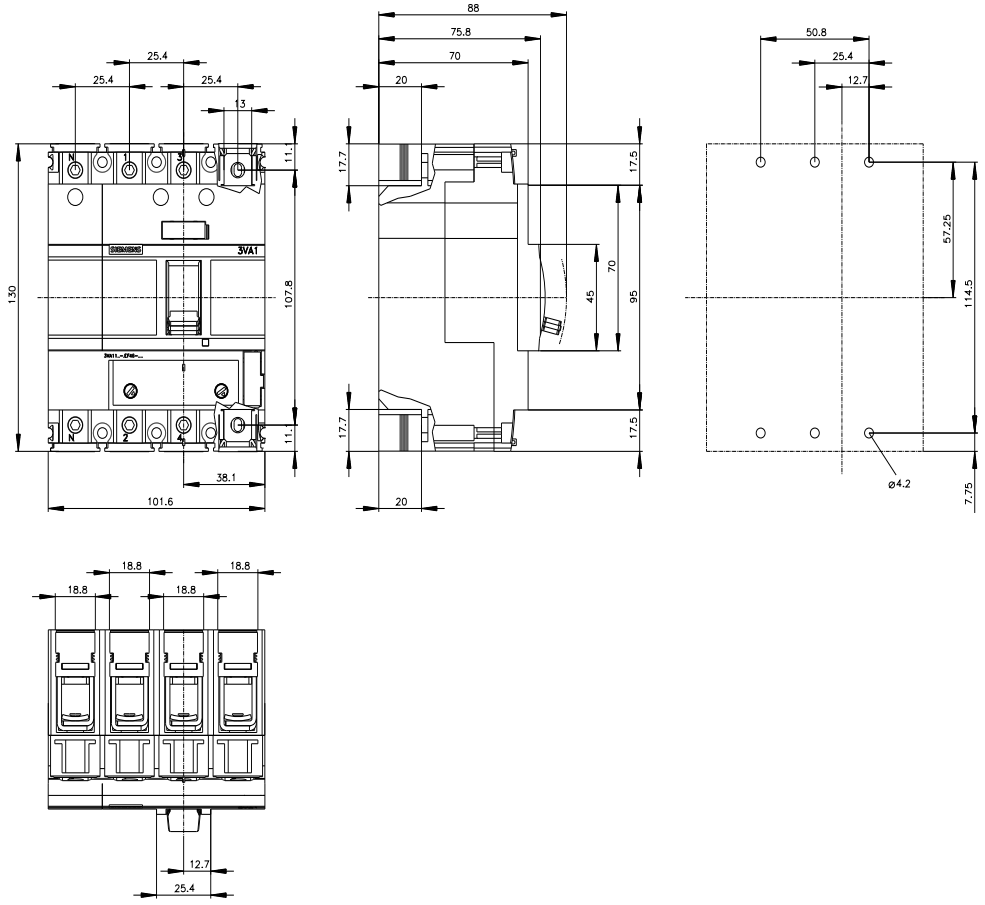
Environment

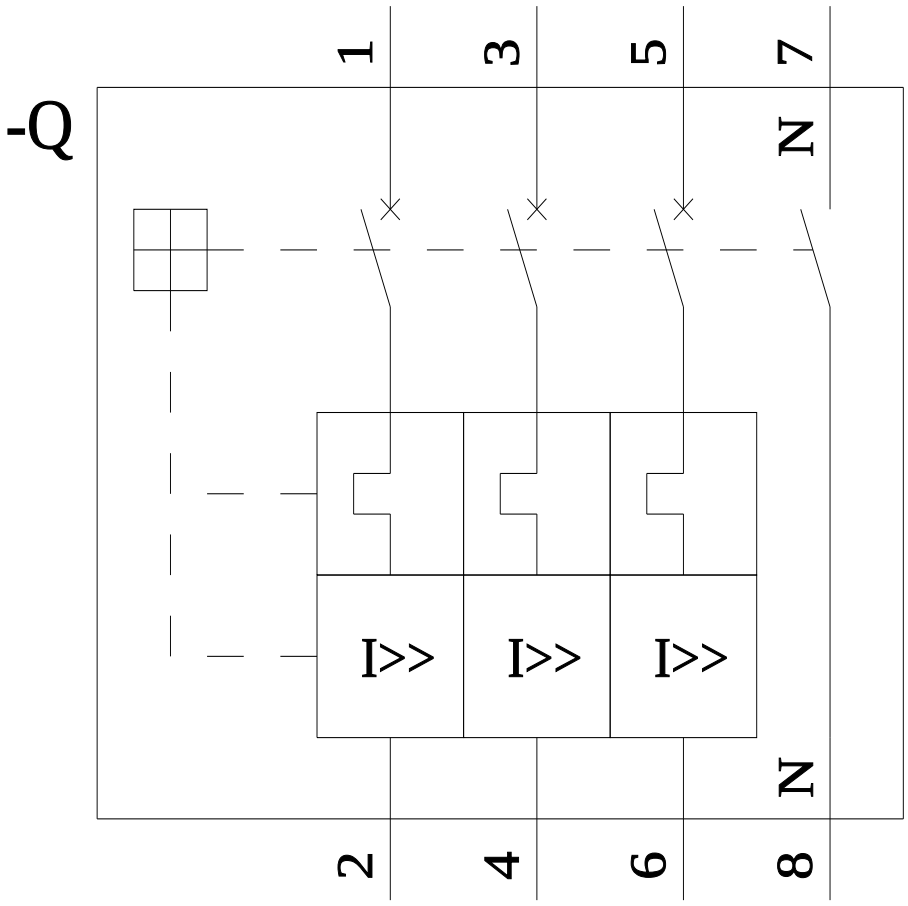
Environmental Confirmations

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=3VA1180-6EF46-0AA0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3VA1180-6EF46-0AA0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1180-6EF46-0AA0
CAx-Online-Generator
http://www.siemens.com/cax
Tender specifications
http://www.siemens.com/specifications

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