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Data sheet 3VA1020-2ED42-0AA0



circuit breaker 3VA1 IEC Frame 100 breaking capacity class B Icu=16 kA @ 415 V 4-pole, line protection TM210, FTFM, In=20 A overload protection Ir=20 A permanently set short-circuit protection Ii=16 x In N conductor unprotected 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	TM210
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
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	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	1.182 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	B
maximum short-circuit current breaking capacity (Icu)	

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● at 240 V	25 kA
● at 415 V	16 kA
● at 440 V	8 kA
● at 500 V	5 kA
● at 690 V	5 kA
operating short-circuit current breaking capacity (Ics)	
● at 240 V	25 kA
● at 415 V	16 kA
● at 440 V	8 kA
● at 500 V	5 kA
● at 690 V	5 kA
short-circuit current making capacity (Icm)	
● at 240 V	52.5 kA
● at 415 V	32 kA
● at 440 V	13.6 kA
● at 500 V	7.5 kA
● at 690 V	7.5 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	20 A
● maximum	20 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	320 A
● maximum	320 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
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	nut keeper kit on both ends
type of connectable conductor cross-sections / for flat-bar terminal connection / minimum	12 x 1 mm
type of connectable conductor cross-sections / for flat-bar terminal connection / maximum	17 x 6,5 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)	Tin
Auxiliary circuit	

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number of CO contacts / for auxiliary contacts	0
Accessories	
product extension / optional / motor drive	No
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
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 VDE Miscellaneous EAC Confirmation

General Product Approval	EMV	Test Certificates		
UKCA CE EG-Konf.	RCM	Miscellaneous	Special Test Certific-ate	Type Test Certific-ates/Test Report

Maritime application					other
ABS	BUREAU VERITAS	DNV	LRS	CCS (China Classifica-tion Society)	Miscellaneous

other		Environment			
Confirmation	产品合格 QC PASS	Environmental Con-firmations	Environmental Con-firmations	EPD	EPD

Environment

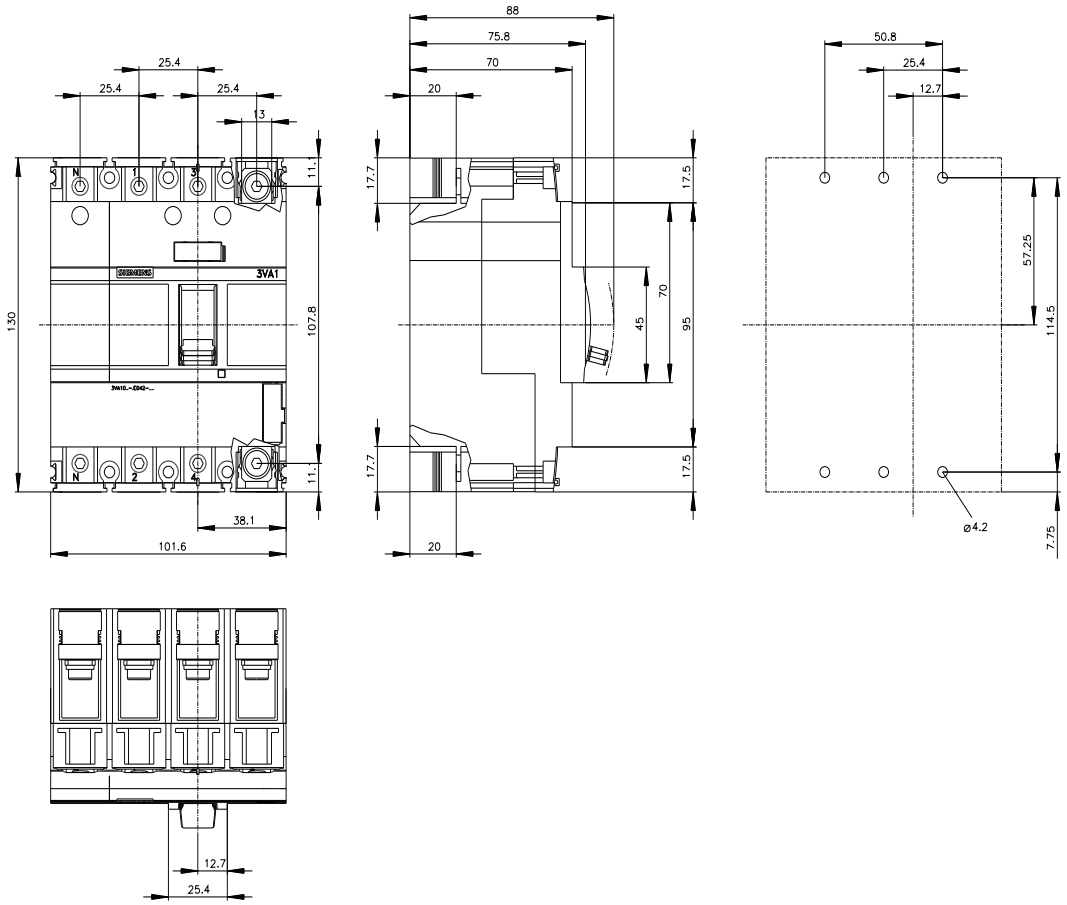
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Further information

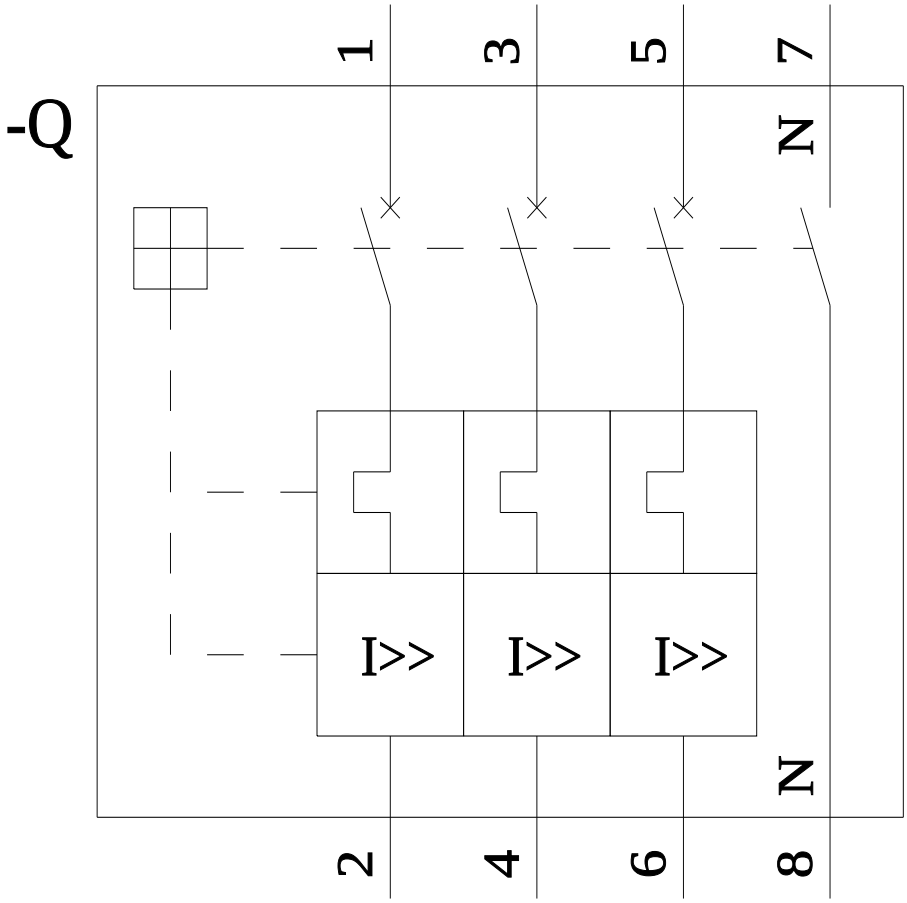
Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
Information- and Downloadcenter (Catalogs, Brochures,…)
https://www.siemens.com/lowvoltage/catalogs

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Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA1020-2ED42-0AA0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3VA1020-2ED42-0AA0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1020-2ED42-0AA0
CAx-Online-Generator
https://www.siemens.com/cax
Tender specifications
https://www.siemens.com/specifications
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