SIEMENS

Data sheet 3VA1220-4EF42-0AA0



circuit breaker 3VA1 IEC frame 250 breaking capacity class S Icu=36kA @ 415V 4-pole, line protection TM240, ATAM, In=200A overload protection Ir=140A...200A short-circuit protection Ii=5...10 x In N conductor unprotected nut keeper kit

Model	
product brand name	SENTRON
product designation	Molded case circuit breaker
Product version	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
Max. rated operational voltage Ue with DC	600 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	42 W
Active power loss / for rated value of the current / at AC / in hot operating state / per pole	14 W
mechanical service life (switching cycles) / typical	20 000
Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	8 000
Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz	5 400
Neutral conductors / upgradeable/retrofittable	No
ground-fault monitoring version	Without
product function	
● communication function	No
● other measurement function	No
Net Weight	2.055 kg
Current	
continuous current / rated value / maximum	250 A
Courant permanent assigné Iu	200 A
operational current	
● at 40 °C	200 A
● at 45 °C	200 A
● at 50 °C	200 A
● at 55 °C	194 A
● at 60 °C	188 A
● at 65 °C	182 A
● at 70 °C	176 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	S
breaking capacity maximum short-circuit current (Icu)	
● at 240 V	55 kA
● at 415 V	36 kA
● at 440 V	25 kA

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● at 500 V	10 kA
● at 690 V	7 kA
breaking capacity operating short-circuit current (Ics)	
● at 240 V	55 kA
● at 415 V	36 kA
● at 440 V	25 kA
● at 500 V	10 kA
● at 690 V	5 kA
short-circuit current making capacity (Icm)	
● at 240 V	121 kA
● at 415 V	75.6 kA
● at 440 V	52.5 kA
● at 500 V	17 kA
● at 690 V	11.9 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
product feature / for L-tripping / adjustable	Yes
product feature / for L-tripping / selectable characteristic function	No
type of value list setting current (Ir) / for L-tripping / with I2t characteristic	St
reference value setting current (Ir) / for L-tripping / with I2t characteristic	x In
set values setting current (Ir) / for L-tripping / with I2t characteristic	0.7;0.8;0.9;1
adjustable response factor setting current (Ir) / for L-tripping / with I2t characteristic / minimum	0.7
adjustable response factor setting current (Ir) / for L-tripping / with I2t characteristic / maximum	1
adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic / minimum	140 A
adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic / maximum	200 A
type of value list delay time (tr) / for L-tripping / with I2t characteristic	Fest
reference value delay time (tr) / for L-tripping / with I2t characteristic	s
set values delay time (tr) / for L-tripping / with I2t characteristic	1
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic / minimum	1 s
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic / maximum	1 s
product feature / for S-tripping / independent of direction / selectable characteristic function	No
product feature / for I-tripping / can be switched on/off	No
design of I-trip / adjustable	Yes
reference value setting current (Ii) / for I-tripping	x In
set values setting current (Ii) / for I-tripping	5;6;7;8;9;10
adjustable response factor setting current (Ii) / for I-tripping / minimum	5
adjustable response factor setting current (Ii) / for I-tripping / maximum	10
adjustable response value setting current (Ii) / for I-tripping / minimum	1 000 A
adjustable response value setting current (Ii) / for I-tripping / maximum	2 000 A
product feature / for G-tripping / selectable characteristic function	No
product feature / with neutral conductor protection / can be switched on/off	No
product feature / with neutral conductor protection / adjustable	Yes
type of value list setting current (InN) / for N-tripping	St
reference value setting current (InN) / for N-tripping	x In

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adjustable response factor setting current (InN) / for N-tripping / minimum	0
adjustable response factor setting current (InN) / for N-tripping / maximum	0
adjustable absolute value setting current (InN) / for N-tripping / minimum	0 A
adjustable absolute value setting current (InN) / for N-tripping / maximum	0 A
tripping characteristic / of the lower tolerance band	AK_3VA1_2_200A_TM2_SuMuH_uT
tripping characteristic / of the upper tolerance band	AK_3VA1_2_200A_TM2_SuMuH_oT
let-through energy characteristic / at 240 V	DE_3VA1_2_200A_TM_line u starter_3u4p_240V
let-through energy characteristic / at 415 V	DE_3VA1_2_200A_TM_line u starter_3u4p_415V
let-through energy characteristic / at 440 V	DE_3VA1_2_200A_TM_line u starter_3u4p_440V
let-through energy characteristic / at 500 V	DE_3VA1_2_200A_TM_line u starter_3u4p_500V
let-through energy characteristic / at 690 V	DE_3VA1_2_200A_TM_line u starter_3u4p_690V
type of value list setting current (Ii) / for I-tripping	St
tripping characteristic / of the let-through current characteristic / at 240 V	DS_3VA1_2_200A_TM_line u starter_3u4p_240V
tripping characteristic / of the let-through current characteristic / at 415 V	DS_3VA1_2_200A_TM_line u starter_3u4p_415V
tripping characteristic / of the let-through current characteristic / at 440 V	DS_3VA1_2_200A_TM_line u starter_3u4p_440V
tripping characteristic / of the let-through current characteristic / at 500 V	DS_3VA1_2_200A_TM_line u starter_3u4p_500V
tripping characteristic / of the let-through current characteristic / at 690 V	DS_3VA1_2_200A_TM_line u starter_3u4p_690V
adjustable current response value current / of instantaneous short-circuit trip unit / minimum	1 000 A
Adjustable response value current / Ii max.	2 000 A
design of the N-conductor protection	without
Ground fault protection / tripping switchable / I2t=ON/OFF	No
Mechanical Design	
product component	
● undervoltage release	No
● voltage trigger	No
● trip indicator	No
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-section, connection screw, width x thickness , min.	13 x 1 mm
Type of connectable conductor cross-section, connection screw, width x thickness , max.	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	
● during operation / minimum	-25 °C
● during operation / maximum	70 °C
● during storage / minimum	-40 °C
● during storage / maximum	80 °C

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Certificates

reference code / according to IEC 81346-2 | Q

General Product Approval



Confirmation



Miscellaneous

KC



EMC



Declaration of Conformity





Test Certificates

Type Test Certificates/Test Report

Special Test Certificate

Miscellaneous

Marine / Shipping









other

Environmental Confirmations

Miscellaneous

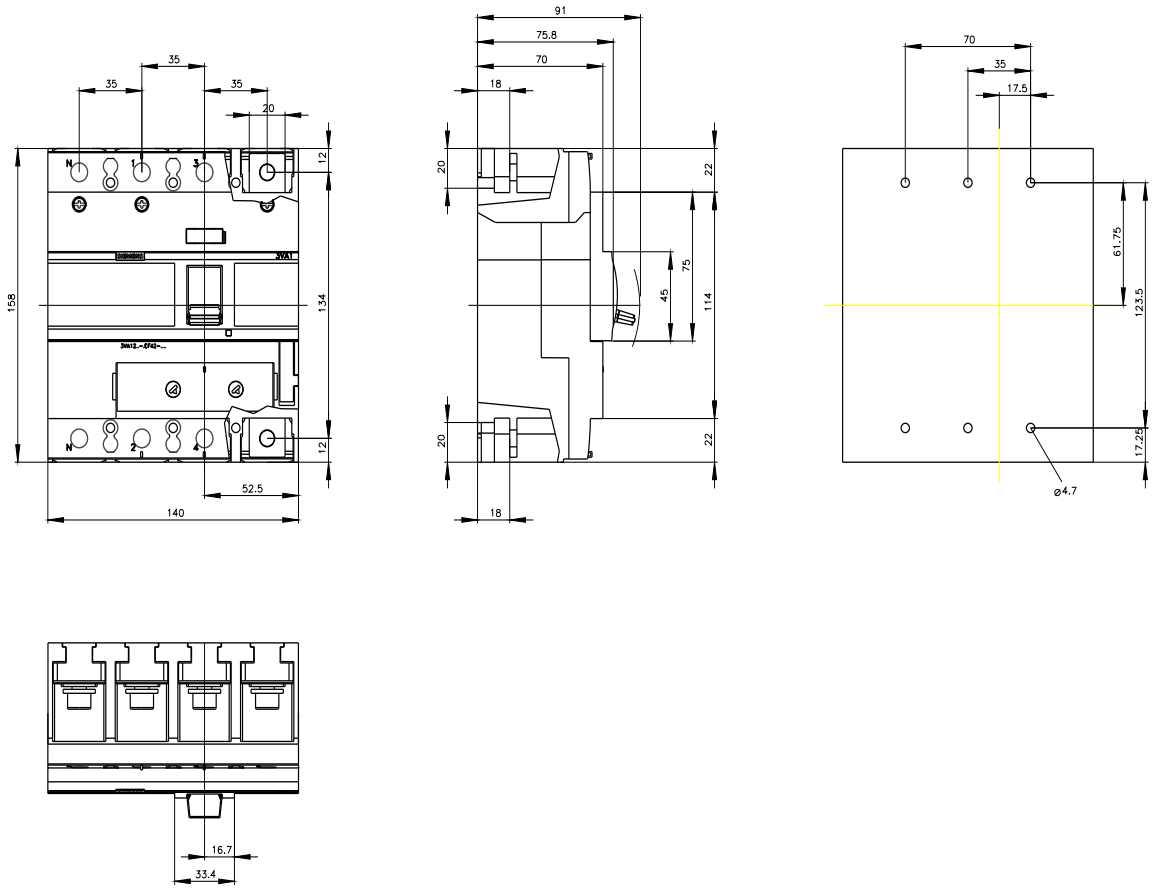
other

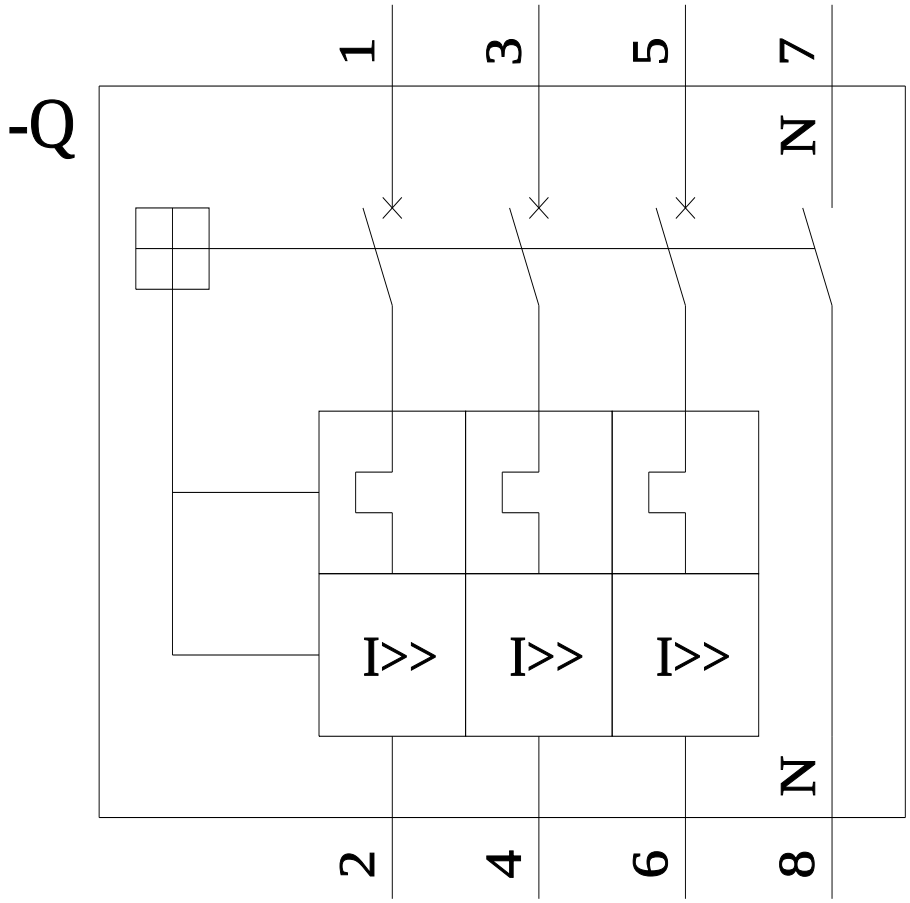
Miscellaneous

Further information

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=3VA1220-4EF42-0AA0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3VA1220-4EF42-0AA0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1220-4EF42-0AA0
CAx-Online-Generator
http://www.siemens.com/cax
Tender specifications
http://www.siemens.com/specifications

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