3VA1116-4EE46-0AA0

Data sheet



circuit breaker 3VA1 IEC frame 160 breaking capacity class S Icu=36kA @ 415V 4-pole, line protection TM220, ATFM, In=160A overload protection Ir=112A...160A short-circuit protection Ii=10 x In N conductor unprotected clamp connection

are dust brand name	CENTRON
product brand name	SENTRON
product designation	Molded case circuit breaker
design of the product	Line protection
design of the overcurrent release	TM220
protection function of the overcurrent release	Ц
number of poles	4
eneral technical data	
nsulation 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	38 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
oroduct 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	1.345 kg
urrent	
operational current	
• at 40 °C	160 A
● at 45 °C	160 A
● at 50 °C	160 A
• at 55 °C	158 A
• at 60 °C	155 A
• at 65 °C	153 A
• at 70 °C	150 A
witching capacity according to IEC 60947	
switching capacity class of the circuit breaker	S
maximum short-circuit current breaking capacity (Icu)	
• at 240 V	55 kA
• at 415 V	36 kA
• at 440 V	25 kA
• at 500 V	7 kA
• at 690 V	7 kA

1416 V		
e at 440 V 5 kA e at 900 V 5 kA short-recried current making capacity (forn) e at 240 V 7 c sh 45 V 75 6 kA e at 415 V 75 6 kA e at 415 V 75 6 kA e at 450 V 11 18 kA e at 450 V 11 18 kA e at 450 V 11 18 kA e at 850 V 11 18 kA	● at 240 V	55 kA
e at 800 V 5 KA short-circuit current making capacity (lom) • at 240 V 121 KA • at 440 V 52 S KA • at 440 V 52 S KA • at 600 V 113 KA • at 800 V 113 KA • at 800 V 113 KA • at 800 V 113 KA daign of short-circuit protection design of short-circuit protection Adjustable parameters product feature of for L-thipping / can be eviliched orivoif • minimum 12 C Hamman • maximum 18 KA • maximum 19 KA • ma	● at 415 V	36 kA
e at 200 V short-circuit current making capacity (fcm) e at 210 V 141 AV 152 V 153 AV 154 AV 155 V 155 AV 155 V 155 AV 155 V 1	● at 440 V	25 kA
short-circuit current making capacity (tem) al 240 V at 415 V at 440 V 52.5 kA at 460 V 11.9 kA at 500 V 11.9 kA design of short-circuit protection For switching power values in DC networks, see the 3VA molded case circuit broaked device manual; link to be found under Service & Support in the last original control of the con	● at 500 V	5 kA
e at 240 V e at 440 V e at 440 V e at 500 V	● at 690 V	5 kA
e at 415 V 9 152 5 KA 1440 V 151 3 KA 1500 V 1113 8 KA 15	short-circuit current making capacity (Icm)	
e at 440 V e at 500 V 11.3 kA design of short-circuit protection for switching power values in DC networks, see the 3VA molded case circuit broaker device manual; link to be found under Service & Support in the last chapter Adjustable parameters product feature / for L-tripping / can be switched onlord adjustable response value setting current ((r) / of the L-trip / with 12 characteristic - minimum - maximum - of A - A - A - A - A - A - A - A - A - A -	● at 240 V	121 kA
at 500 V 11.9 kA design of short-circuit protection besides of short-circuit protection for switching power values in DC networks, see the 3VA molded case circuit breather device manual, link to be found under Service & Support in the last of challenge of the second under Service & Support in the last of the second under Service & Support in the last of the second under Service & Support in the last of	● at 415 V	75.6 kA
design of short-circuit protection for switching power values in DC networks, see the 3VA molded case circuit brotection shapter product feature if for L-tripping / can be switched anoid? adjustable parameters product feature if for L-tripping / can be switched anoid? adjustable response value setting current (itr) / of the L-trip / with 12t characteristic — minimum — maximum — adjustable response value setting current (iii) / for I-tripping / with 12t characteristic — minimum — maximum — maximum — maximum — adjustable setting current (iii) / for I-tripping — minimum — maximum — on A — maximum — on A — design of the N-conductor protection — product function / grounding protection — without or grounding protection — without component — undervoltage release — vallage tripger — trip indicator — height (iii) — trip indicator — trip indic	● at 440 V	52.5 kA
For switching power values in DC networks, see the SVA moded case circuit breaker device manual; link to be found under Service & Support in the last chapter	● at 500 V	11.9 kA
Adjustable parameters product fleature / for L-tripping / can be switched on/off adjustable response value setting current (ir) / of the L-trip / with I2t characteristic minimum adjustable response value delay time (ir) / for L-tripping / with I2t characteristic minimum 112 A maximum 15 A maximum 160 A adjustable response value delay time (ir) / for I-tripping / with I2t characteristic minimum 1	● at 690 V	11.9 kA
product feature / for L-inpping / can be switched on/off adjustable response value setting current (ir) / of the L-trip / with I2t characteristic • minimum • maximum adjustable response value delay time (tr) / for L-tripping / with I2t characteristic • minimum • minimum • minimum • minimum • minimum • minimum • maximum 1 600 A adjustable response value setting current (iii) / for I-tripping • minimum • maximum 1 600 A adjustable setting current (inN) / for N-tripping • minimum • maximum 0 A • maximum 0 A • maximum 0 A • maximum 0 A • moximum 1 • undervoltage release • voltage trigger • voltage trigge	design of short-circuit protection	breaker device manual; link to be found under Service & Support in the last
adjustable response value setting current (Ir) / of the L-trip / with Izl2 characteristic minimum maximum ne maxim	Adjustable parameters	
Iz A maximum 112 A maximum 100 A 112 A 100 A 113 A 115 A	product feature / for L-tripping / can be switched on/off	No
minimum adjustable response value delay time (tr) / for L-ripping / with I2t characteristic minimum minimum maximum maximum madjustable response value setting current (li) / for I-tripping minimum	adjustable response value setting current (Ir) / of the L-trip / with	
adjustable response value delay time (tr) / for L-tripping / with 12t characteristics minimum 1s maximum 1s adjustable response value setting current (il) / for I-tripping minimum 1600 A adjustable response value setting current (il) / for I-tripping minimum 1600 A maximum 1600 A design of the N-conductor protection without product function / grounding protection without product function / grounding protection No Mechanical Dosign product component understordinger elease No voltage frigger No rip indicator No height In 130 mm width [in] 5.12 in height 130 mm width [in] 4 in hype of connectable conductor cross-sections / of the round conductor remnal / stranded width 101.6 mm depth 70 mm Connections arrangement of electrical connectors / for main current circuit be without protection of the surface / of the connections / on the top of the switch (N. 1, 5, 5) design of the surface / of the connectons / on the top of the switch (N. 1, 5, 5) design of the surface / of the connectons / on the bottom of the switch (N. 1, 5, 5) design of the surface / of the connectons / on the bottom of the switch (N. 1, 5, 5) design of the surface / of the connectons / on the bottom of the switch (N. 1, 5, 5) design of the surface / of the connectons / on the bottom of the switch (N. 1, 5, 5) design of the surface / of the connectons / on the bottom of the switch (N. 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Environmental conditions during operation / minimum - 25 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °		
adjustable response value delay time (tr) / for L-tripping / with 12t characteristic		
characteristic minimum maximum adjustable response value setting current (ii) / for I-tripping minimum maximum adjustable setting current (inN) / for N-tripping minimum maximum adjustable setting current (inN) / for N-tripping minimum adjustable setting current (inN) / for M-tripping minimum adjustable setting current (inN) / for M-tripping minimum adjustable setting current (inN) / for M-tripping adjustable setting current (inN) / for minimum adjustable setting current (inN) / for M-tripping protection class IP / on the front in Innumber of Co ontacts / for auxiliary contacts auxiliary circuit number of Co ontacts / for auxiliary contacts auxiliary circuit number of Co ontacts / for auxiliary contacts auxiliary circuit number of Co ontacts / for auxiliary contacts auxiliary circuit number of Co ontacts / for auxiliary contacts auxiliary circuit number of Co ontacts / for auxiliary contacts auxiliary circuit auxiliary ci		160 A
maximum	characteristic	
adjustable response value setting current (li) / for I-tripping		
• minimum 1 600 A • maximum 1 600 A • maximum 1 600 A • maximum 0 A design of the N-conductor protection without product function / grounding protection No Mechanical Design Product component	• maximum	1 s
* maximum adjustable setting current (InN) / for N-tripping * minimum	adjustable response value setting current (li) / for I-tripping	
adjustable setting current (inN) / for N-tripping • minimum • maximum design of the N-conductor protection without product function / grounding protection Mochanical Design product component • undervoltage release • voltage trigger • trip indicator height [in] height [in] depth [in] despendent of electrical connections / 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) design of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Accessories product extension / optional / motor drive Environmental conditions product extension / optional / motor drive euring operation / minimum • during operation / minimum	• minimum	
minimum 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0		1 600 A
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design of the N-conductor protection without product function / grounding protection No Mechanical Design product component • undervoltage release No • voltage trigger 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 width [in] 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 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) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts 0 Accessories product extension / optional / motor drive Yes Environmental conditions protection dass IP / on the front IP40 ambient temperature • during operation / minimum -25 ° °C • during operation / maximum 70 ° °C	• minimum	0 A
product function / grounding protection Mechanical Design product component • undervoltage release • voltage trigger • trip indicator height [in] type of connectable conductor cross-sections / of the round conductor terminal / stranded width [in] type of connectable conductor cross-sections / of the round conductor terminal / stranded width depth [in] depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Yes Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / minimum -25 °C • during operation / maximum	maximum	0 A
Mechanical Design	design of the N-conductor protection	without
product component • undervoltage release • voltage trigger • trip indicator No height [in] height 130 mm width [in] 4 in type of connectable conductor cross-sections / of the round conductor terminal / stranded width depth [in] 2,76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature e during operation / minimum -25 °C eduring operation / maximum 70 °C	product function / grounding protection	No
undervoltage release voltage trigger No trip indicator No height [in] height 130 mm width [in] type of connectable conductor cross-sections / of the round conductor terminal / stranded width depth [in] dept	Mechanical Design	
voltage trigger trip indicator No height [in]	product component	
• trip indicator height [in] height [in] height 130 mm width [in] type of connectable conductor cross-sections / of the round conductor terminal / stranded width type of connectable conductor cross-sections / of the round conductor terminal / stranded width total form 101.6 mm depth [in]	undervoltage release	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 width 101.6 mm depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit 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) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Yes Environmental conditions protection class IP / on the front ambient temperature • during operation / maximum 70 °C	 voltage trigger 	No
height 130 mm width [in] 4 in 4	trip indicator	No
width [in] type of connectable conductor cross-sections / of the round conductor terminal / stranded width 101.6 mm depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts 0 Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 mm 101.6 mm 4 x (1,5 - 70 mm²) 101.6 mm 102.76 in 102.76 in 103.6 terminal 104.6 terminal 105.6 terminal 105.7 terminal 105.7 terminal 105.7 terminal 105.7 terminal 107.7 terminal 107.7 terminal 108.7 terminal 109.7	height [in]	5.12 in
type of connectable conductor cross-sections / of the round conductor terminal / stranded width	height	130 mm
width 101.6 mm depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit 5 box terminal on both sides 6 silver 5 switch (N, 1, 3, 5) design of the surface / of the connections / on the top of the switch (N, 2, 4, 6) Auxiliary circuit 1 mumber of CO contacts / for auxiliary contacts 5 product extension / optional / motor drive 7 yes Environmental conditions protection / minimum 2-25 °C 4 during operation / maximum 70 conditions 10 mm Maximum 101.6 mm 101.6	width [in]	4 in
depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit 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) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxillary circuit number of CO contacts / for auxiliary contacts Product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 mm Front terminal Front		1 x (1,5 - 70 mm²)
depth 70 mm Connections arrangement of electrical connectors / for main current circuit 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) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front IP40 ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 mm Front terminal Front terminal Front terminal box terminal on both sides Silver Tin Silver Tin Silver Tin P40 1P40 ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 °C	width	101.6 mm
arrangement of electrical connectors / for main current circuit 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) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum	depth [in]	2.76 in
arrangement of electrical connectors / for main current circuit 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) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum	depth	70 mm
type of electrical connection / for main current circuit design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 °C	Connections	
design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum Silver Silver Silver Silver Silver Silver Silver Tin Fin Fin Fin 1P40 2-25 °C 70 °C	arrangement of electrical connectors / for main current circuit	Front terminal
switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 °C	type of electrical connection / for main current circuit	box terminal on both sides
switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts 0 Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 °C		Silver
number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Yes Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 °C		Tin
Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 °C	Auxiliary circuit	
product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum 70 °C	number of CO contacts / for auxiliary contacts	0
Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum • during operation / maximum 70 °C		
Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum • during operation / maximum 70 °C	product extension / optional / motor drive	Yes
protection class IP / on the front ambient temperature • during operation / minimum -25 °C 70 °C		
ambient temperature • during operation / minimum • during operation / maximum -25 °C 70 °C		IP40
 during operation / minimum during operation / maximum 70 °C 	·	
• during operation / maximum 70 °C	•	-25 °C
- saining storage / miniminani		
	- daming otologo / minimum	

during storage / maximum

80 °C

Certificates

reference code / according to IEC 81346-2

Q

General Product Approval

Confirmation





Miscellaneous

<u>KC</u>



EMC

Declaration of Conformity

Test Certificates







Type Test Certificates/Test Report

Special Test Certificate

Miscellaneous

Marine / Shipping







CCS / China Classification Society Confirmation

other

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)

 $\underline{https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA1116-4EE46-0AA0}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3VA1116-4EE46-0AA0

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

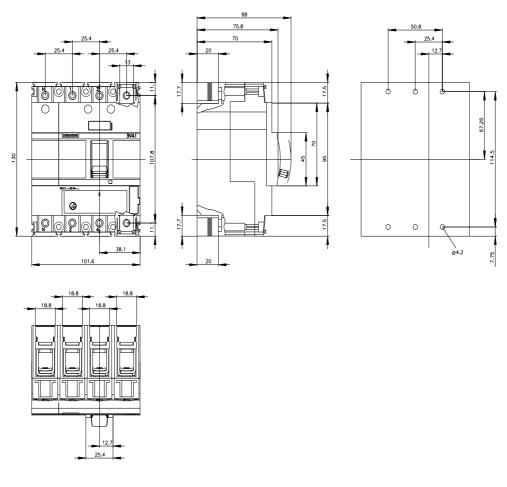
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1116-4EE46-0AA0

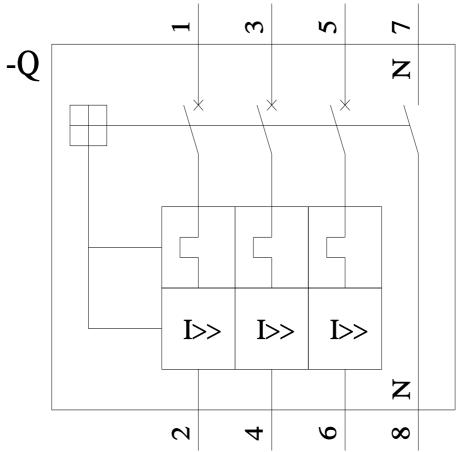
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://www.siemens.com/specifications





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