SIEMENS

Data sheet

3VA1116-4EF42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS S ICU=36KA @ 415 V 4-POLE, LINE PROTECTION TM240, ATAM, IN=160A OVERLOAD PROTECTION IR=112A ...160A SHORT CIRCUIT PROTECTION II=5...10 X IN NEUTRAL UNPROTECTED BUSBAR CONNECTION

Figure similar

Model		
product brand name	SENTI	RON
Product designation	Molde	d case circuit breaker
Design of the product	Line p	rotection
Product variations	Gener	al Applications
Ground fault monitoring version	Withou	ut
Design of the auxiliary release	Withou	ut auxiliary release
Design of the auxiliary switch	Withou	ut
Design of the operating mechanism	toggle	handle
Type of the driving mechanism / motor drive	No	
Design of the overcurrent release	TM240	0

General technical data				
Number of poles		4		
Trip class / of the L-trip / with I2t characteristic / initial value		1		
Trip class / of the L-trip / with I2t characteristic / Full-scale value		1		
Electrical endurance (switching cycles)				
● at AC-1 / at 380/415 V / at 50/60 Hz		8 000		
circuit-breaker / Design		3VA		
Mechanical service life (switching cycles) / typical		15 000		

Voltage		
Insulation voltage / Rated value	V	800

Protection class

Protective function of the overcurrent release LI Switching capacity Switching capacity class of the circuit breaker S Dissipation Active power loss • maximum W 38 Electricity Continuous current / Rated value / maximum	Protection class IP		IP40
Switching capacity Switching capacity class of the circuit breaker S Dissipation Active power loss • maximum W 38 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value • of the current-dependent overload release / Full-scale value • of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value • of cr DC / Rated value • at 40 °C / Rated value • at 55 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 60 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rat	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker Dissipation Active power loss maximum W 38 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value Adjustable response value current of the current-dependent overload release / Full-scale value of the instantaneous short-circuit release / initial value Main circuit Operating voltage with AC / at 50/60 Hz / Rated value of the C / Rated value A 160 Operating current at 40 °C / Rated value A 160 at 55 °C / Rated value A 158 at 60 °C / Rated value A 158 at 60 °C / Rated value A 153 At 70 °C / Rated value A 150 Auxillary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability for use	Protective function of the overcurrent release		LI
Switching capacity class of the circuit breaker Dissipation Active power loss • maximum W 38 Electricity Continuous current / Rated value / maximum	Switching capacity		
Active power loss • maximum Main Section			S
Active power loss • maximum Main circuit	Dissipation		
Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 160 Adjustable response value current • of the current-dependent overload release / Full-scale value • of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value • for DC / Rated value • at 40 °C / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value • at 70 °C / Rated value •	·		
Continuous current / Rated value / maximum Continuous current / Rated value A 160 Adjustable response value current of the current-dependent overload release / Full-scale value of the instantaneous short-circuit release / initial value Main circuit Operating voltage with AC / at 50/60 Hz / Rated value of tor DC / Rated value v 600 Operating current at 40 °C / Rated value A 160 at 50 °C / Rated value A 160 at 50 °C / Rated value A 158 of 60 °C / Rated value A 155 of 7 / Rated value A 155 A 153 of 7 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability for use	• maximum	W	38
Continuous current / Rated value Adjustable response value current of the current-dependent overload release / Full-scale value of the instantaneous short-circuit release / initial value Main circuit Operating voltage with AC / at 50/60 Hz / Rated value of to DC / Rated value A 160 Operating current at 40 °C / Rated value A 160 A 160 Operating current at 50 °C / Rated value A 158 at 60 °C / Rated value A 155 at 65 °C / Rated value A 153 at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability for use	Electricity		
Adjustable response value current of the current-dependent overload release / Full-scale value of the instantaneous short-circuit release / initial value Main circuit Operating voltage with AC / at 50/60 Hz / Rated value of tor DC / Rated value at 40 °C / Rated value A 160 oat 50 °C / Rated value at 50 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 65 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value suitability Suitability Suitability for use	Continuous current / Rated value / maximum	А	160
of the current-dependent overload release / Full-scale value of the instantaneous short-circuit release / initial value Main circuit Operating voltage with AC / at 50/60 Hz / Rated value of for DC / Rated value of the overlap voltage with AC / at 50/60 Hz / Rated value of for DC / Rated value of voltage visit AC / at 50/60 Hz / Rated value of voltage visit AC / at 50/60 Hz / Rated value of voltage visit AC / at 50/60 Hz / Rated value of voltage visit AC / at 50/60 Hz / Rated value of voltage visit AC / at 50/60 Hz / Rated value of voltage visit AC / At 50/60 Hz / Rated value of voltage visit AC / At 50/60 Hz / Rated value of voltage visit AC / Rated value of voltage voltage of voltage voltage voltage of voltage vo	Continuous current / Rated value	Α	160
Full-scale value • of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value • for DC / Rated value Operating current • at 40 °C / Rated value • at 50 °C / Rated value A 160 • at 55 °C / Rated value A 158 • at 60 °C / Rated value A 155 • at 65 °C / Rated value A 153 • at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability for use	Adjustable response value current		
Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value • for DC / Rated value Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability for use		Α	1
Operating voltage • with AC / at 50/60 Hz / Rated value • for DC / Rated value V 600 Operating current • at 40 °C / Rated value • at 50 °C / Rated value A 160 • at 55 °C / Rated value A 158 • at 60 °C / Rated value A 155 • at 65 °C / Rated value A 153 • at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability for use System protection		Α	5
with AC / at 50/60 Hz / Rated value for DC / Rated value Operating current at 40 °C / Rated value at 50 °C / Rated value at 55 °C / Rated value at 60 °C / Rated value at 60 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 65 °C / Rated value A 155 at 70 °C / Rated value A 153 at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability system protection	Main circuit		
• for DC / Rated value Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 60 °C / Rated value • at 60 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value A 153 • at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability for use V 600 A 160 A 158 A 155 A 155 A 155 A 153 A 150 Suitability Suitability for use	Operating voltage		
Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 60 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value A 155 • at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability for use system protection	 with AC / at 50/60 Hz / Rated value 	V	690
 at 40 °C / Rated value at 50 °C / Rated value at 55 °C / Rated value at 60 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability for use system protection 	• for DC / Rated value	V	600
at 50 °C / Rated value at 55 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value A 155 at 65 °C / Rated value A 153 at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability for use system protection	Operating current		
at 55 °C / Rated value at 60 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value A 153 at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability for use system protection	• at 40 °C / Rated value	Α	160
 at 60 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value A 153 at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability for use system protection 	• at 50 °C / Rated value	Α	160
at 65 °C / Rated value at 70 °C / Rated value A 153 at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use system protection	• at 55 °C / Rated value	Α	158
at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use system protection	● at 60 °C / Rated value	Α	155
Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability for use system protection	• at 65 °C / Rated value	Α	153
Number of CO contacts / for auxiliary contacts Suitability Suitability for use system protection	• at 70 °C / Rated value	Α	150
Number of CO contacts / for auxiliary contacts Suitability Suitability for use system protection	Auxiliary circuit		
Suitability for use system protection	Number of CO contacts / for auxiliary contacts		0
	Suitability		
Adjustable parameters	Suitability for use		system protection
Adjustable response value current	Adjustable response value current		
• of I-trip / Full-scale value A 10	• of I-trip / Full-scale value	Α	10
• for N-conductor protection / initial value A 0	• for N-conductor protection / initial value	Α	0
• for N-conductor protection / Full-scale value A 0	• for N-conductor protection / Full-scale value	Α	0
Adjustable response value current / of the current- dependent overload release / initial value 0.7	-	А	0.7
Product details	Product details		
Product component Product component			

Trip indicator		No
		No
• display		No
Voltage trigger		No
undervoltage release		
undervoltage release with leading contact		No
Product property		Na
 for neutral conductors / upgradeable/retrofittable / Short-circuit and 		No
overload proof		
Product expansion / optional / motor drive		Yes
Product function		
Product function		
Intrinsic device protection		Yes
communication function		No
Phase failure detection		No
other measurement function		No
• Other measurement function		No
Accessories		
Manufacturer article number / of the supplied basic		3VA1116-4EF42-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(lcs)	I. A	55
• at 240 V / Rated value	kA	55
at 240 V / Rated valueat 415 V / Rated value	kA	36
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value 	kA kA	36 25
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value 	kA kA kA	36 25 15
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value 	kA kA	36 25
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu)	kA kA kA kA	36 25 15 5
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value 	kA kA kA kA	36 25 15 5
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu)	kA kA kA kA	36 25 15 5 5 36
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value 	kA kA kA kA kA kA	36 25 15 5 5 55 36 25
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value at 415 V / Rated value 	kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value 	kA kA kA kA kA kA	36 25 15 5 5 55 36 25
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Short-circuit current making capacity (Icm)	kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value 	kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16 7
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Short-circuit current making capacity (Icm)	kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Short-circuit current making capacity (Icm) at 240 V / Rated value Short-circuit current making capacity (Icm) at 240 V / Rated value 	kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16 7
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Short-circuit current making capacity (Icm) at 240 V / Rated value at 240 V / Rated value At 240 V / Rated value at 240 V / Rated value at 240 V / Rated value 	kA kA kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16 7
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Short-circuit current making capacity (Icm) at 240 V / Rated value at 690 V / Rated value at 690 V / Rated value Connections Arrangement of electrical connectors / for main	kA kA kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16 7
 at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Maximum short-circuit current breaking capacity (Icu) at 240 V / Rated value at 415 V / Rated value at 440 V / Rated value at 500 V / Rated value at 690 V / Rated value Short-circuit current making capacity (Icm) at 240 V / Rated value at 690 V / Rated value at 690 V / Rated value Connections Connections	kA kA kA kA kA kA kA kA kA	36 25 15 5 55 46 25 16 7 121 75.6 7.5

• for flat-bar terminal connection / minimum	12 x 0
• for flat-bar terminal connection / maximum	17 x 6.5
Type of electrical connection / for main current circuit	Lug terminal

Mechanical Design				
Height	mm	130		
Width	mm	101.6		
Depth	mm	70		
Mounting type		fixed mounting		

Environmental conditions				
Ambient temperature				
during operation / minimum	°C	-25		
during operation / maximum	°C	70		
 during storage / minimum 	°C	-40		
during storage / maximum	°C	80		

Certificates
Equipment marking

Q • acc. to DIN EN 61346-2 Q • acc. to DIN EN 81346-2

General Product Approval	EMC	Declaration of	Shipping Approval
		Conformity	











other

other

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/lowvoltage/catalogs

Industry Mall (Online ordering system)

https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11164EF420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11164EF420AA0/all

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

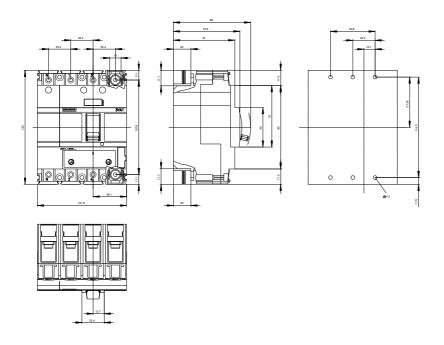
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11164EF420AA0

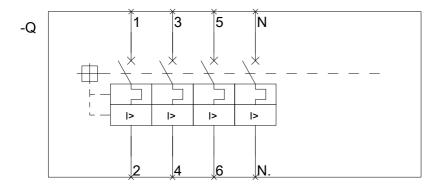
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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