SIEMENS

Data sheet

3VA1116-3GF42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS N ICU=25KA @ 415 V 4-POLE, LINE PROTECTION TM240, ATAM, IN=160A OVERLOAD PROTECTION IR=112A ...160A SHORT CIRCUIT PROTECTION II=5...10 X IN NEUTRAL PROTECTION 100% BUSBAR CONNECTION

Figure similar

Model		
product brand name	SENTRON	
Product designation	Molded case circuit breaker	
Design of the product	Line protection	
Product variations	General Applications	
Ground fault monitoring version	Without	
Design of the auxiliary release	Without auxiliary release	
Design of the auxiliary switch	Without	
Design of the operating mechanism	toggle handle	
Type of the driving mechanism / motor drive	No	
Design of the overcurrent release	TM240	

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 Switching capacity class of the circuit breaker N Dissipation Active power loss • maximum W 38 Electricity Continuous current / Rated value / maximum A Continuous current / Rated value / maximum A A A A A B Continuous current / Rated value / maximum A A A A B Continuous current / Rated value / maximum A A A A B Continuous current / Rated value A A B A A B Continuous current / Rated value A B A B Continuous current / Rated value A B Continuous current B Continuous current A Continuous current A Continuous current B Continuous current C C CONTINUOUs current C CONTINUOUs current C CONTINUOUs current	Protection class IP		IP40
Switching capacity Switching capacity class of the circuit breaker N 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 • 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 50 °C / Rated value • at 55 °C / Rated value • at 60 °C / Rated value • at 60 °C / Rated value • at 65	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker Dissipation Active power loss	Protective function of the overcurrent release	_	Ц
Switching capacity class of the circuit breaker Dissipation Active power loss	Switching capacity		
Active power loss • maximum Maximum Wasa			N
Active power loss • maximum Maximum Wasa	Dissipation		
Continuous current / Rated value / maximum	Active power loss		
Continuous current / Rated value / maximum	• 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 or DC / Rated value V 690 Operating current of at 40 °C / Rated value A 160 at 55 °C / Rated value A 160 of 155 °C / Rated value A 158 of 60 °C / Rated value A 155 of C Rated value of 60 °C / Rated value of 70 °C / Rated value of 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitabile parameters Adjustable parameters Adjustable parameters Adjustable response value current of 1-trip / Full-scale value of or N-conductor protection / initial value A 10	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 • for DC / Rated value Operating current • 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 60 °C / Rated value • at 70 °C / Rated value • at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitabile parameters Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value A 10	Continuous current / Rated value / maximum	Α	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 DC / Rated value verifficial value Operating current at 40 °C / Rated value A 160 at 55 °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 Suitabile parameters Adjustable parameters Adjustable response value current of I-trip / Full-scale value of or N-conductor protection / initial value of or N-conductor protection / initial value A 100	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 • at 55 °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 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitable parameters Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value A 100	Adjustable response value current		
Main circuit Operating voltage		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 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 Suitabile parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value A 100		Α	5
with AC / at 50/60 Hz / Rated value v 690 for DC / Rated value V 600 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 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 for use Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value for N-conductor protection / initial value A 100	Main circuit		
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 60 °C / Rated value at 66 °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 O Suitability Suitability for use Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value A 10 for N-conductor protection / initial value A 100	Operating voltage		
Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • 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 Suitabile parameters Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value A 100	• with AC / at 50/60 Hz / Rated value	V	690
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 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 Suitabile parameters Adjustable parameters Adjustable response value current of I-trip / Full-scale value A 10 for N-conductor protection / initial value A 100	• for DC / Rated value	V	600
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 At 153 at 70 °C / Rated value Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability Suitability for use system protection Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value A 100	Operating current		
at 55 °C / Rated value 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 Suitability Suitability for use Adjustable parameters Adjustable response value current of I-trip / Full-scale value A 10 for N-conductor protection / initial value A 158 A 155 A 155 A 155 A 150 A 10	• 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 Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value A 100	• at 50 °C / Rated value	Α	160
 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 Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value A 10 for N-conductor protection / initial value 	• at 55 °C / Rated value	Α	158
at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability for use Suitabile parameters Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value A 10 100	• at 60 °C / Rated value	Α	155
Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability for use Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value A 10	• at 65 °C / Rated value	Α	153
Number of CO contacts / for auxiliary contacts Suitability Suitability for use Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value O Suitability System protection Adjustable parameters Adjustable response value current A 10 A 10	• at 70 °C / Rated value	Α	150
Number of CO contacts / for auxiliary contacts Suitability Suitability for use Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value O Suitability System protection Adjustable parameters Adjustable response value current A 10 A 10	Auxiliary circuit		
Suitability for use system protection Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value A 100			0
Suitability for use system protection Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value A 100	Suitability		
Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / initial value A 10 A 100			system protection
 of I-trip / Full-scale value for N-conductor protection / initial value A 10 A 100 	Adjustable parameters		
• for N-conductor protection / initial value A 100			
	• of I-trip / Full-scale value	Α	10
• for N-conductor protection / Full-scale value A 100	• for N-conductor protection / initial value	Α	100
	• for N-conductor protection / Full-scale value	Α	100
Adjustable response value current / of the current- A 0.7 dependent overload release / initial value	•	A	0.7
Product details	Product details		
Product component			

		NI-
Trip indicator		No
display		No
Voltage trigger		No
undervoltage release		No
 undervoltage release with leading contact 		No
Product property		
 for neutral conductors / upgradeable/retrofittable / Short-circuit and overload proof 		No
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
Accessories		
Manufacturer article number / of the supplied basic		3VA1116-3GF42-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(lcs)		
• at 240 V / Rated value	kA	36
● at 415 V / Rated value	kA	25
● at 440 V / Rated value	kA	16
• at 500 V / Rated value	kA	8
at 690 V / Rated value	kA	5
Maximum short-circuit current breaking capacity (Icu)		
• at 240 V / Rated value	kA	36
• at 415 V / Rated value	kA	25
• at 440 V / Rated value	kA	16
● at 500 V / Rated value	kA	8
• at 690 V / Rated value	kA	7
Short-circuit current making capacity (lcm)		
• at 240 V / Rated value	kA	75.6
• at 415 V / Rated value	kA	52.5
• at 690 V / Rated value	kA	7.5
Connections		
Arrangement of electrical connectors / for main		Front terminal
		Front terminal

• 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	

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Equipment marking

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

General Product Approval	EMC	Declaration of	Shipping Approval
		Conformity	





other



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other

Further information

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

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

Industry Mall (Online ordering system)

 $\underline{\text{https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11163GF420AA0}}$

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11163GF420AA0/all

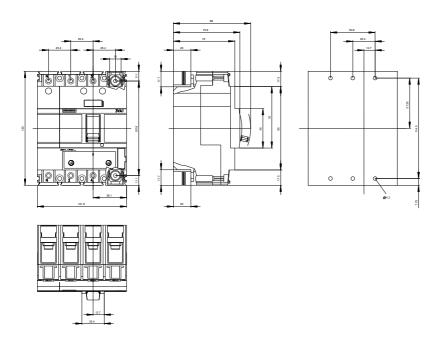
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11163GF420AA0

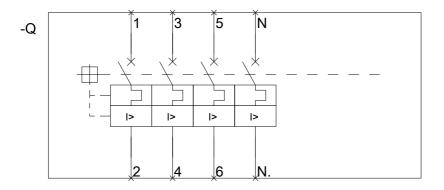
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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