SIEMENS

Data sheet

3VA1116-3GE42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS N ICU=25KA @ 415 V 4-POLE, LINE PROTECTION TM220, ATFM, IN=160A OVERLOAD PROTECTION IR=112A ...160A SHORT CIRCUIT PROTECTION II=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	TM220		

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

Protection class IP / on the front Protective function of the overcurrent release Switching capacity Switching capacity Switching capacity Switching capacity class of the circuit breaker Dissipation Active power loss • maximum W 38 Electricity Continuous current / Rated value / maximum A 160 Adjustable response value current • 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 Walin 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 50 °C / Rated value • at 50 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 70	Protection class IP		IP40
Switching capacity Switching capacity class of the circuit breaker Dissipation	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker Dissipation Active power loss • maximum Continuous current / Rated value / maximum 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 50/80 Hz / Rated value • for DC / Rated value • for DC / Rated value • at 40 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 70 °	Protective function of the overcurrent release		Ц
Switching capacity class of the circuit breaker Dissipation Active power loss • maximum Continuous current / Rated value / maximum 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 50/80 Hz / Rated value • for DC / Rated value • for DC / Rated value • at 40 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 70 °	Switching capacity		
Active power loss • maximum Electricity Confinuous 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 • of the instantaneous short-circuit release / initial value • of the firstantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the current Operating voltage • with AC / at 50/60 Hz / Rated value • for DC / Rated value • of 40 °C / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated			N
Active power loss • maximum Maximum Maxi	Dissipation		
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 • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value A 160 • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value A 10 • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value A 10 • of the instantaneous short-circuit release / initial value A 10 • of the instantaneous short-circuit release / initial value A 10 Adjustable response value current / of the current-dependent overload release / initial value	Active power loss		
Continuous current / Rated value / maximum 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 of the instantaneous short-circuit release / initial value of the instantaneous short-circuit release / initial value of the instantaneous short-circuit release / initial value of the instantaneous short-circuit release / initial value of the instantaneous short-circuit release / initial value of the instantaneous short-circuit release / initial value of the instantaneous short-circuit release / initial value of the current-circuit release / initial value of the instantaneous short-circuit release / initial value of the current-circuit release / initial value of the current-dependent overload release / initial value A 160 100 100 100 100 100 100 100	• 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 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 of or DC / Rated value of or DC / Rated value at 50 °C / Rated value at 60 °C / Rated value at 70 °C / Rated value bat 70 °C / Rated value at 70 °C / Rated value at 70 °C / Rated value at 70 °C / Rated value bat 70 °C / Rated value at 70 °C / Rated value at 70 °C / Rated value at 70 °C / Rated value bat 70 °C / Rated value at 70 °C / Rated value Aljustable parameters Adjustable parameters Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 0.7	Electricity		
Adjustable response value current of the current-dependent overload release / Full-scale value of the instantaneous short-circuit release / initial A 10 value Main circuit Operating voltage of DC / Rated value of DC / Rated value value Operating current of A 160 of	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 v 690 for DC / Rated value v 690 Operating current at 40 °C / Rated value at 50 °C / Rated value at 50 °C / Rated value at 60 °C / Rated value at 70 °C / Rated value Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitabile parameters Adjustable parameters Adjustable response value current of 1-trip / Full-scale value for N-conductor protection / initial value A 100 Adjustable response value current / of the current-dependent overload release / initial value	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 A 160 • at 55 °C / Rated value A 160 • at 55 °C / Rated value A 155 • at 60 °C / Rated value A 155 • at 60 °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 • for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value Adjustable response value current / of the current-dependent overload release / initial value	Adjustable response value current		
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 50 °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 • 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 O Suitability Suitability for use System protection Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / Full-scale value A 100 • for N-conductor protection / Full-scale value A 100 Adjustable response value current / of the current-dependent overload release / initial value		Α	1
Operating voltage • with AC / at 50/60 Hz / Rated value • for DC / Rated value V 690 Operating current • at 40 °C / Rated value A 160 • at 50 °C / Rated value A 160 • at 50 °C / Rated value A 158 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 153 • 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 • for N-conductor protection / Full-scale value A 100 Adjustable response value current / of the current-dependent overload release / initial value A 0.7		Α	10
• with AC / at 50/60 Hz / Rated value • for DC / Rated value V 600 Operating current • at 40 °C / Rated value A 160 • 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 150 • 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 • for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 0.7	Main circuit		
for DC / Rated value Operating current at 40 °C / Rated value at 50 °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 65 °C / Rated value at 70 °C / Rated value A suitability Suitability Suitability Suitability Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value for N-conductor protection / Full-scale value for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 0.7	Operating voltage		
Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 50 °C / Rated value • at 50 °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 O Suitability 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 / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value	• 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 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 0 Suitability Suitability for use Suitabile parameters Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 0.7	• 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 At 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O 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 of or N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 0.7	Operating current		
at 55 °C / Rated value at 60 °C / Rated value At 155 at 60 °C / Rated value At 155 at 65 °C / Rated value At 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability Suitability for use Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value of or N-conductor protection / Full-scale value Adjustable response value current of N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 0.7	• at 40 °C / Rated value	Α	160
at 60 °C / Rated value at 65 °C / Rated value At 153 at 70 °C / Rated value At 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 for N-conductor protection / initial value of or N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value Adjustable response value current / of the current-dependent overload release / initial value	• 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 0 Suitability Suitability or use Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value Adjustable response value current / of the current- dependent overload release / initial value A 0.7	• 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 Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value of or N-conductor protection / Full-scale value Adjustable response value current / of the current Adjustable response value current / of the current-dependent overload release / initial value A 100 Adjustable response value current / of the current-dependent overload release / initial value	• 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 • for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value	• 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 for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value 0 System protection A	• 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 for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value 0 System protection A 10 A 100 A 100 Adjustable response value current / of the current-dependent overload release / initial value	Auxiliary circuit		
Suitability for use Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value of Intrip / Full-scale value A 100 of Intrip / Full-scale value A 100 Adjustable response value current / of the current-dependent overload release / initial value			0
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 / Full-scale value A 100 of Intrip / Full-scale value A 100 Adjustable response value current / of the current-dependent overload release / initial value	Suitability		
Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value for N-conductor protection / Full-scale value A 100 for N-conductor protection / Full-scale value A 100 Adjustable response value current / of the current-dependent overload release / initial value	Suitability for use		system protection
 of I-trip / Full-scale value for N-conductor protection / initial value for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 10 A 100 A 0.7	Adjustable parameters		
 for N-conductor protection / initial value for N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 100 A 0.7	Adjustable response value current		
● for N-conductor protection / Full-scale value Adjustable response value current / of the current- dependent overload release / initial value A 100 A 0.7	● of I-trip / Full-scale value	Α	10
Adjustable response value current / of the current- dependent overload release / initial value A 0.7	• for N-conductor protection / initial value	Α	100
dependent overload release / initial value	• for N-conductor protection / Full-scale value	Α	100
Product details	•	Α	0.7
Troduct details	Product details		
Product component			

		Ne
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		3VA1116-3GE42-0AA0
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
current circuit Type of connectable conductor cross-section		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		

C	ertii	ficat	tes	

Equipment marking

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

General Product Approval	EMC	Declaration of	Shipping Approval
		Conformity	





other







 GL

other

other

Further information

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

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

Industry Mall (Online ordering system)

 $\underline{\text{https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11163GE420AA0}}$

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11163GE420AA0/all

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

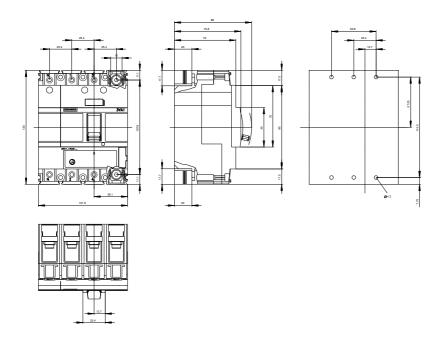
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11163GE420AA0

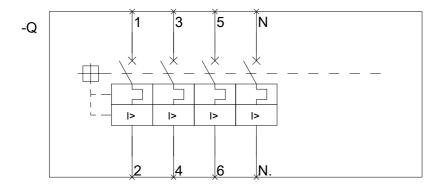
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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