SIEMENS

Data sheet

3VA1112-3EF42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS N ICU=25KA @ 415 V 4-POLE, LINE PROTECTION TM240, ATAM, IN=125A OVERLOAD PROTECTION IR=87,5A ...125A SHORT CIRCUIT PROTECTION II=5...10 X IN NEUTRAL UNPROTECTED 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

Protection class IP / on the front IP40 Protective function of the overcurrent release Switching capacity Switching capacity Switching capacity class of the circuit breaker N Dissipation Active power loss • maximum W 23.2 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value / maximum A 155 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 Operating voltage • with AC / at 50/60 Hz / Rated value • tor DC / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 60 °C / Rated value • at 60 °C / Rated value • at 70 °C / Rate	Protection class IP		IP40
Switching capacity Switching capacity class of the circuit breaker Dissipation Active power loss • maximum W 23.2 Electricity Continuous current / Rated value / maximum • of the current-dependent overload release / A 125 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 of DC / Rated value • of the DC / Rated value • of to DC / Rated value • at 40 °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 67 °C / Rated value • at 70 °C / Rated value	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker Dissipation Active power loss • maximum W 23.2 Electricity Continuous current / Rated value / maximum • 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 50 °C / Rated value • at 50 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated val	Protective function of the overcurrent release		Ц
Switching capacity class of the circuit breaker Dissipation Active power loss • maximum W 23.2 Electricity Continuous current / Rated value / maximum • 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 50 °C / Rated value • at 50 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated val	Switching capacity		
Active power loss • maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maxi			N
Active power loss • maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum 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 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 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 •	Active power loss		
Continuous current / Rated value / maximum Continuous current / Rated value A 125 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 current-dependent overload release / initial value A 125 • of the current-dependent overload release / initial value A 125 • of the current-dependent overload release / initial value A 10 • of r N-conductor protection / Full-scale value A 0.7	• maximum	W	23.2
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 vofon Operating current of the instantaneous short-circuit release / initial value of or DC / Rated value vofon Operating current of the instantaneous short-circuit release / initial of the instantaneous short-circuit release / initial value vofon Operating voltage with AC / at 50/60 Hz / Rated value of the professor of the value of the top of the value of the top of the current of the current-dependent overload release / initial value Adjustable response value current / of the current-dependent overload release / initial value of the value of the current-dependent overload release / initial value of the top of the current-dependent overload release / initial value of the top of the current-dependent overload release / initial value of the top of the current-dependent overload release / initial value	Electricity		
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-ci	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 DC / Rated value value Operating current at 40 °C / Rated value value Operating current at 40 °C / Rated value at 55 °C / Rated value at 55 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value but 70 °C / Rated value at	Continuous current / Rated value	Α	125
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 125 • at 50 °C / Rated value A 125 • at 55 °C / Rated value A 122 • at 60 °C / Rated value A 120 • at 65 °C / Rated value A 117 • at 70 °C / Rated value A 114 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitabile 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	Adjustable response value current		
Main circuit Operating voltage ● with AC / at 50/60 Hz / Rated value V 690 ● for DC / Rated value V 600 Operating current ● at 40 °C / Rated value A 125 ● at 55 °C / Rated value A 122 ● at 60 °C / Rated value A 117 ● at 70 °C / Rated value A 114 Auxiliary circuit Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use system protection Adjustable parameters Adjustable response value current ● for N-conductor protection / initial value A 0 ● for N-conductor protection / Full-scale value A 0 Adjustable response value current / of the current-dependent overload release / initial value A 0.7		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 125 • at 50 °C / Rated value A 122 • at 50 °C / Rated value A 122 • at 60 °C / Rated value A 120 • at 60 °C / Rated value A 120 • at 65 °C / Rated value A 117 • at 70 °C / Rated value A 114 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 A 0 Adjustable response value current / of the current-dependent overload release / initial value A 0.7		Α	5
with AC / at 50/60 Hz / Rated value for DC / Rated value V 600 Operating current at 40 °C / Rated value A 125 at 50 °C / Rated value A 125 at 50 °C / Rated value A 122 at 60 °C / Rated value A 120 at 65 °C / Rated value A 120 at 65 °C / Rated value A 117 at 70 °C / Rated value A 117 at 70 °C / Rated value A 114 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 A 0 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 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 70 °C / Rated value A 1117 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitabile 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 70 °C / Rated value A 117 • at 70 °C / Rated value A 114 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 A 0 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 A 125 at 55 °C / Rated value A 122 at 60 °C / Rated value A 120 at 65 °C / Rated value A 117 at 70 °C / Rated value A 114 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 A 10 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	• for DC / Rated value	V	600
at 55 °C / Rated value at 65 °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 At 117 Auxiliary circuit Number of CO contacts / for auxiliary contacts Suitability Suitability Suitability or 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-dependent overload release / initial value A 0.7	Operating current		
at 55 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 65 °C / Rated value A 117 at 70 °C / Rated value A 114 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 of or 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	125
at 60 °C / Rated value at 65 °C / Rated value A 117 at 70 °C / Rated value A 114 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 of N-conductor protection / Full-scale value Adjustable response value current / Of the current-dependent overload release / Initial value A 0.7	• at 50 °C / Rated value	Α	125
at 65 °C / Rated value at 70 °C / Rated value A 114 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 Adjustable response value current / of the current-dependent overload release / initial value A 0.7	• at 55 °C / Rated value	Α	122
at 70 °C / Rated value A 114 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 10 Adjustable response value current / of the current-dependent overload release / initial value	• at 60 °C / Rated value	Α	120
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	117
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 0 0 0 0 0 0 0 0 0 0 0 0 0	• at 70 °C / Rated value	Α	114
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 0 0 0 0 0 0 0 0 0 0 0 0	Auxiliary circuit		
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 0 Adjustable response value current / of the current-dependent overload release / initial value system protection A 0 0 0 0 0 0 0 0 0 0 0 0 0			0
Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value for N-conductor protection / Full-scale value A of I-trip / Full-scale value A of I-trip / Full-scale value A of I of	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 0 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 A 0 Adjustable response value current / of the current-dependent overload release / initial value A 10 A 0 A 0 A 0 A 0.7			
 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 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 0 0.7	● of I-trip / Full-scale value	Α	10
Adjustable response value current / of the current- dependent overload release / initial value	• for N-conductor protection / initial value	Α	0
dependent overload release / initial value	• for N-conductor protection / Full-scale value	А	0
	•	Α	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 switch		3VA1112-3EF42-0AA0
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 (Icm)		
• 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		

• 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

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

General Product Approval	EMC	Declaration of	Shipping Approval
		Conformity	













 GL

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/3VA11123EF420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11123EF420AA0/all

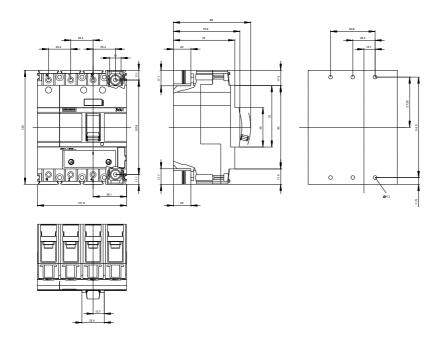
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11123EF420AA0

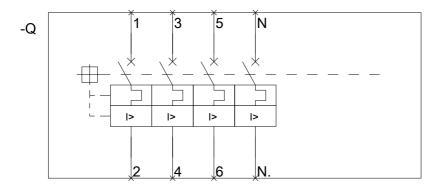
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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