# **SIEMENS**

## Data sheet

# 3VA1112-3FF42-0AA0



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 PROTECTION 50% BUSBAR CONNECTION

Figure similar

Model		
product brand name	SENTRON	
Product designation	Molded case circuit brea	ker
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 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  • of the instantaneous short-circuit release / initial value  • of the ord / Rated value  • 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 70 °C / Rated value  • a	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 OC / 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 50/60 Hz / Rated value • for DC / Rated value  • for DC / Rated value  • at 40 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated va	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  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 50/80 Hz / Rated value  • for DC / 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 65 °C / Rated value  • at 70	Switching capacity		
Active power loss			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  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 65 °C / Rated value  • at 67 °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 or 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  of or DC / Rated value  volue  Operating current  at 40 °C / Rated value  at 55 °C / Rated value  at 60 °C / Rated value  at 70 °C / Rated value  A 1114  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitability  Adjustable parameters  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  for N-conductor protection / Full-scale value  for N-conductor protection / Full-scale value  A 0.5  Adjustable response value current / 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 current	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  at 70 °C / Rated value  At 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 / Full-scale 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 0.5  Adjustable response value current / of the current-dependent overload release / initial value  A 0.7	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  • at 50 °C / Rated value  • at 50 °C / Rated value  • at 65 °C / Rated value  • at 66 °C / Rated value  • at 67 °C / Rated value  • at 67 °C / Rated value  • at 67 °C / Rated value  • at 68 °C / Rated value  • at 69 °C / Rated value  • at 67 °C / Rated value  • at 70 °C / Rated value  • at 67 °C / Rated value  • at 68 °C / Rated value  • at	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         0.5           ● for N-conductor protection / Full-scale value         A         0.5           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 1114  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 0.5  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 121 • at 65 °C / Rated value A 117 • at 70 °C / Rated value A 1114  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitability for use  Adjustable 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 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  • for N-conductor protection / Full-scale value  A 0.5  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 0.5  Adjustable response value current / of the current-dependent overload release / initial value	• for DC / Rated value	V	600
at 55 °C / Rated value  at 55 °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  for N-conductor protection / Full-scale value  Adjustable response value current / of the current-dependent overload release / initial value  A 0.5  Adjustable response value current / of the current-dependent overload release / initial value	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  O  Suitability Suitability for use  Adjustable parameters  Adjustable parameters  Adjustable response value current of I-trip / Full-scale value of or N-conductor protection / initial value of 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 0.5  Adjustable response value current / of the current-dependent overload release / initial value	• 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  for N-conductor protection / Full-scale 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  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     for 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  O.5  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  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  0  10  10  10  10  10  10  10  10	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 0.5  of Intrip / Full-scale value  A 0.5  Adjustable response value current / of the current-dependent overload release / initial value			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 0.5  of Intrip / Full-scale value A 0.5  of Intrip / Full-scale value A 0.5  of Intrip / Full-scale value A 0.5  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 0.5  of Initial value A 0.5  Adjustable response value current / of the current-dependent overload release / initial value	Suitability for use		system protection
<ul> <li>of I-trip / Full-scale value</li> <li>for N-conductor protection / initial value</li> <li>for N-conductor protection / Full-scale value</li> <li>Adjustable response value current / of the current-dependent overload release / initial value</li> </ul> A 10 <ul> <li>0.5</li> <li>Adjustable response value current / of the current-dependent overload release / initial value</li> </ul>	Adjustable parameters		
<ul> <li>for N-conductor protection / initial value</li> <li>for N-conductor protection / Full-scale value</li> <li>Adjustable response value current / of the current-dependent overload release / initial value</li> </ul> A 0.5 A 0.7	Adjustable response value current		
• for N-conductor protection / Full-scale value  A 0.5  Adjustable response value current / of the current- dependent overload release / initial value  A 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	0.5
dependent overload release / initial value	• for N-conductor protection / Full-scale value	Α	0.5
	•	Α	0.7
Product details			
Product component			

		NI-
Trip indicator		No
• display		No
Voltage trigger		No
undervoltage release		No
<ul> <li>undervoltage release with leading contact</li> </ul>		No
Product property		
<ul> <li>for neutral conductors / upgradeable/retrofittable / Short-circuit and overload proof</li> </ul>		No
Product expansion / optional / motor drive		Yes
Product function		
Product function		
<ul> <li>Intrinsic device protection</li> </ul>		Yes
• communication function		No
Phase failure detection		No
<ul> <li>other measurement function</li> </ul>		No
Accessories		
Manufacturer article number / of the supplied basic		3VA1112-3FF42-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(Ics)		22
• 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				
<ul><li>during operation / minimum</li></ul>	°C	-25		
<ul><li>during operation / maximum</li></ul>	°C	70		
<ul> <li>during storage / minimum</li> </ul>	°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/3VA11123FF420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11123FF420AA0/all

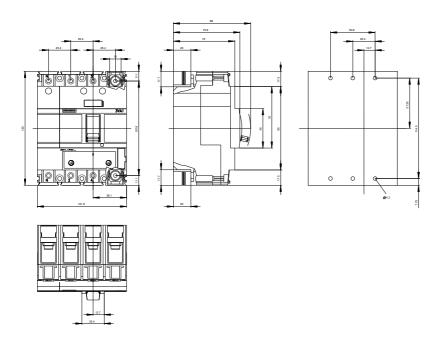
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11123FF420AA0

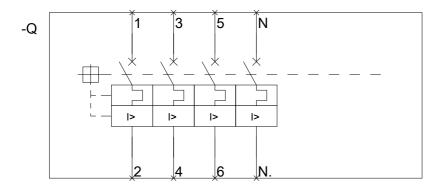
**CAx-Online-Generator** 

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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