# **SIEMENS**

## Data sheet

# 3VA1112-3EE42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS N ICU=25KA @ 415 V 4-POLE, LINE PROTECTION TM220, ATFM, IN=125A OVERLOAD PROTECTION IR=87,5A ...125A SHORT CIRCUIT PROTECTION II=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	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		
	tage	
Insulation voltage / Rated value V 800	sulation voltage / Rated value	V

#### 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  N  Dissipation Active power loss  • maximum  W 23.2  Electricity Continuous current / Rated value / maximum Active power loss  • maximum  A 160 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  Main circuit  Operating voltage  • with AC / at 50/60 Hz / Rated value • vor the proper of the current of the curren	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 / 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 CP (Rated value  • of the CP (Rated value  • of the CP (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 60 °C / Rated value  • at 70 °C /	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker    Dissipation	Protective function of the overcurrent release		Ц
Switching capacity class of the circuit breaker    Dissipation	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 70 °C / Rated value  •			
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 10  • of the current-dependent overload release / initial value  A 10  • of vicualitivity  Contacts / for auxiliary contacts  A 10  • of or N-conductor protection / initial value  • 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  Main circuit  Operating voltage  with AC / at 50/60 Hz / Rated value  of r DC / Rated value  v 690  Operating current  of the instantaneous short-circuit release / initial value  v 690  Operating voltage  v 690  of or DC / Rated value  v 690  Operating current  of the vice of vi	Electricity		
Adjustable response value current  of the current-dependent overload release / Full-scale value  of the instantaneous short-circuit release / initial value  Adjustable response value current / of the current-dependent overload release / initial value	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     of DC / Rated value     v 690  Operating current     at 40 °C / Rated value     at 40 °C / Rated value     at 55 °C / Rated value     at 65 °C / Rated value     at 70 °C / Rated value	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 60 °C / Rated value  • at 60 °C / Rated value  • at 60 °C / Rated value  • at 65 °C / Rated value  • at 67 °C / Rated value  • at 70 °C / Rated value  • at	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 65 °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 for use  system protection  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  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 125  • at 50 °C / Rated value  A 125  • at 50 °C / Rated value  A 122  • at 60 °C / Rated value  A 120  • at 60 °C / Rated value  A 120  • at 60 °C / Rated value  A 117  • at 70 °C / Rated value  A 117  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	10
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 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  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  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 50 °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 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 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  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 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 or 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  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  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 / Full-scale value  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	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 10  of Intrip / Full-scale value  A 0  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  of Intrip / Full-scale value  A  of Intrip / Full-scale	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  of I-trip / Full-scale value A 0  of Initial value A 0  of Initial 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     of r N-conductor protection / initial value     of r N-conductor protection / Full-scale value     of r N-conductor protection / Full-scale value     A     of r N-conductor protection / Full-scale value     A     Adjustable response value current / of the current-dependent overload release / initial value			
<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 0.7	Adjustable response value current		
● for N-conductor protection / Full-scale value A 0  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
dependent overload release / initial value	• for N-conductor protection / Full-scale value	А	0
Product details	-	Α	0.7
Troduct dotails	Product details		
Product component Product component			

		NI
• Trip indicator		No
• display		No
<ul> <li>Voltage trigger</li> </ul>		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		
Intrinsic device protection		Yes
• communication function		No
Phase failure detection		No
<ul> <li>other measurement function</li> </ul>		No
Accessories		
Manufacturer article number / of the supplied basic		3VA1112-3EE42-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(Ics)		
• 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		

• 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		
<ul><li>during storage / maximum</li></ul>	°C	80		

9	Чı	411			
v	ŒΠ		1075	165	

## **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







 $\mathsf{GL}$ 

## 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/3VA11123EE420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11123EE420AA0/all

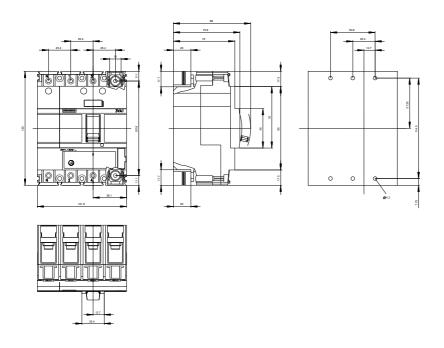
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11123EE420AA0

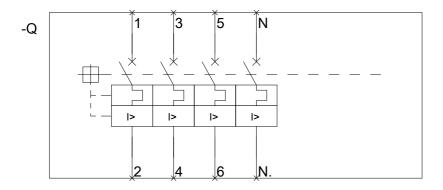
**CAx-Online-Generator** 

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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