# **SIEMENS**

#### Data sheet

## 3VA1120-4EF42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS S ICU=36KA @ 415 V 4-POLE, LINE PROTECTION TM240, ATAM, IN=20A OVERLOAD PROTECTION IR=14A ...20A SHORT CIRCUIT PROTECTION II=5...10 X IN NEUTRAL UNPROTECTED BUSBAR CONNECTION

Figure similar

Model				
product brand name	SENTI	RON		
Product designation	Molde	d case circuit breaker		
Design of the product	Line p	rotection		
Product variations	Gener	al Applications		
Ground fault monitoring version	Withou	ut		
Design of the auxiliary release	Withou	ut auxiliary release		
Design of the auxiliary switch	Withou	ut		
Design of the operating mechanism	toggle	handle		
Type of the driving mechanism / motor drive	No			
Design of the overcurrent release	TM240	0		

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 Switching capacity class of the circuit breaker  S  Dissipation Active power loss  • maximum  W  12  Electricity Continuous current / Rated value / maximum Activation 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 Cr Rated value • of the Cr Rated value • of to Cr Rated value • of to Cr 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 65 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated v	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  W  12  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 60 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value	Protective function of the overcurrent release		Ц
Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  W  12  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 60 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value	Switching capacity		
Active power loss			S
Active power loss  • maximum    M	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  • 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  Adjustable response value current of the current-dependent overload release / initial value	·		
Continuous current / Rated value / maximum	• maximum	W	12
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  vith AC / at 50/60 Hz / Rated value  V 690  Operating current  of the instantaneous short-circuit release / initial value  A 20  of the instantaneous short-circuit release / initial value  A 20  of the instantaneous short-circuit release / initial value  A 19  of the circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitability or use  Adjustable parameters  Adjustable parameters  Adjustable response value current  of thing / Full-scale value  A 10  of r N-conductor protection / Full-scale value  A 0  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 value  Adjustable response value current / of the current-dependent overload release / initial value		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     vertice of Pated value     of To C / Rated value     of Co / Rated value     of Co / Rated value     of Secondary of Pated value     of Secondary of Sec	Continuous current / Rated value	Α	20
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 65 °C / Rated value  • at 65 °C / Rated value  A 19  • at 70 °C / Rated value  A 19  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  A 0  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  • for DC / Rated value  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 65 °C / Rated value  • at 70 °C / Rated value  A 19  • at 70 °C / Rated value  A 19  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 / 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  • 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  • at 70 °C / Rated value  A 19  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitable 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 20 • at 50 °C / Rated value A 20 • at 55 °C / Rated value A 19 • at 60 °C / Rated value A 19 • at 65 °C / Rated value A 19 • at 70 °C / Rated value A 19  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 0.7	Main circuit		
for DC / Rated value     Operating current	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 19  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	• 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  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 19  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  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  A 19  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 0.7	Operating current		
at 55 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value A 19  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  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 the current-dependent overload release / initial value  A 0.7	• at 40 °C / Rated value	Α	20
at 60 °C / Rated value at 65 °C / Rated value A 19  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  Suitability  Suitable 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  A 10  Adjustable response value current / Of the current-dependent overload release / initial value  A 0.7	• at 50 °C / Rated value	Α	20
at 65 °C / Rated value  at 70 °C / Rated value  A 19  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	20
at 70 °C / Rated value  A 19  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-dependent overload release / initial value  A 0.7	• at 60 °C / Rated value	Α	19
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	19
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  A 0  O  Adjustable response value current / of the current-dependent overload release / initial value	• at 70 °C / Rated value	Α	19
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 10  A 0  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  • for N-conductor protection / Full-scale value  A 0  • for N-conductor protection / Full-scale value  A 0  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  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			
<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  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	Α	0
	•	Α	0.7
Product details	Product details		
Product component			

Trip indicator		No
·		No
display     Voltage trigger		No
<ul><li>Voltage trigger</li><li>undervoltage release</li></ul>		No
•		No
undervoltage release with leading contact  Product property		INO
Product property     for neutral conductors /		No
upgradeable/retrofittable / Short-circuit and		140
overload proof		
Product expansion / optional / motor drive	_	Yes
Product function		
Product function		
Intrinsic device protection		Yes
<ul> <li>communication function</li> </ul>		No
Phase failure detection		No
other measurement function		No
Accessories		
Manufacturer article number / of the supplied basic		3VA1120-4EF42-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(lcs)		
● at 240 V / Rated value	kA	55
• at 415 V / Rated value	kA	36
• at 440 V / Rated value	kA	25
• at 500 V / Rated value	kA	15
at 690 V / Rated value	kA	5
Maximum short-circuit current breaking capacity (Icu)		
• at 240 V / Rated value	kA	55
• at 415 V / Rated value	kA	36
• at 440 V / Rated value	kA	25
• at 500 V / Rated value	kA	16
• at 690 V / Rated value	kA	7
Short-circuit current making capacity (lcm)		
• at 240 V / Rated value	kA	121
● at 415 V / Rated value	kA	75.6
• 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				
<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		

Cortification				
Equipment marking				
	<ul> <li>acc. to DIN EN 613</li> </ul>			

Certificates

Q 46-2 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/3VA11204EF420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11204EF420AA0/all

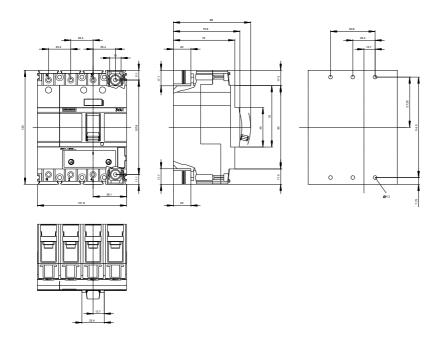
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11204EF420AA0

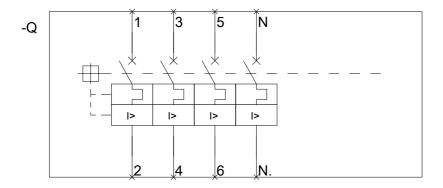
**CAx-Online-Generator** 

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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