# **SIEMENS**

## Data sheet

## 3VA1120-6GF46-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS H ICU=70KA @ 415 V 4-POLE, LINE PROTECTION TM240, ATAM, IN=20A OVERLOAD PROTECTION IR=14A ...20A SHORT CIRCUIT PROTECTION II=5...10 X IN NEUTRAL PROTECTION 100% CABLE 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 class of the circuit breaker IH  Dissipation  Active power loss • maximum W 12  Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value / maximum A 20  Adjustable response value current • of the current-dependent overload release / Full-scale value • of the instantaneous short-circuit release / initial value  **Operating value**  **Main circuit**  Operating value**  **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 • at	Protection class IP		IP40
Switching capacity  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  • of the instantaneous short-circuit release / initial value  • of the instantaneous short-circuit release / initial value  • of the or C / Rated value  • of PD / Rated value  • of PO / Rated value  • at 40 °C / Rated value  • at 50 °C / Rated value  • at 50 °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  Active power loss  • maximum  W 12  Electricity  Continuous current / Rated value / maximum  • of the current-dependent overload release / A 1 5 6 7 6 7 Rated 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  Froduct details	Protective function of the overcurrent release		LI
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 / A 1 5 6 7 6 7 Rated 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  Froduct details	Switching capacity		
Active power loss  • maximum    Maximum   Maxi			н
Electricity  Continuous current / Rated value / maximum	Dissipation		
Electricity  Continuous current / Rated value / maximum  A 160  Continuous current / Rated value  A 20  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 to DC / Rated value  of DC / Rated value  of C / Rated value  at 50 °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 60 °C / Rated value  at 70	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 current	• 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  of the current of the instantaneous short-circuit release / initial value  of the current of the current-dependent overload release / initial value  A 10  Operating current  of the current open dent overload release / initial value  A 20  of the C/ Rated value  A 19  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 / Full-scale value  A 10  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  of the current-dependent overload release / initial value  of the current-dependent overload release / initial value  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 600  Operating current     at 40 °C / Rated value     v 600  Operating current     at 40 °C / Rated value     at 55 °C / Rated value     at 65 °C / Rated value     at 65 °C / Rated value     at 65 °C / Rated value     at 67 °C / Rated value     at 67 °C / Rated value     at 68 °C / Rated value     at 67 °C / Rated value     at 68 °C / Rated value     at 67 °C / Rated value     at 68 °C / Rated value     at 68 °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 for use  Adjustable parameters  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     for N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	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  • at 40 °C / Rated value  • at 50 °C / Rated value  • at 55 °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  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 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	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 55 °C / Rated value  • at 55 °C / Rated value  • at 65 °C / Rated value  • at 70 °C / Rated value  A 19  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 / Full-scale value  A 10  Adjustable response value current / of the current-dependent overload release / initial value  Product details		Α	1
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 55 °C / Rated value  • at 55 °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  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  Product details		Α	5
with AC / at 50/60 Hz / Rated value     for DC / Rated value     v 600  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 70 °C / Rated value     at	Main circuit		
for DC / Rated value	Operating voltage		
Operating current  • at 40 °C / Rated value  • at 50 °C / Rated value  • at 55 °C / Rated value  • at 60 °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  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  Product details	• with AC / at 50/60 Hz / Rated value	٧	690
at 40 °C / Rated value at 50 °C / Rated value A 20 at 55 °C / Rated value A 19 at 60 °C / Rated value A 19 at 60 °C / Rated value A 19 at 60 °C / Rated value A 19 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  Product details	• for DC / Rated value	V	600
at 50 °C / Rated value  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 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  Product details	Operating current		
at 55 °C / Rated value 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  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  Product details	• at 40 °C / Rated value	Α	20
at 60 °C / Rated value at 65 °C / Rated value A 19  at 65 °C / Rated value A 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 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  Product details	• at 50 °C / Rated value	Α	20
at 65 °C / Rated value  at 65 °C / Rated value  A 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  of or N-conductor protection / Full-scale value  Adjustable response value current / of the current-dependent overload release / initial value  Product details	• at 55 °C / Rated value	Α	20
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  A 100  of ron N-conductor protection / Full-scale value  Adjustable response value current / of the current-dependent overload release / initial value  Product details	• 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  Product details	● 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  A 100  of or N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	• 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  A 100  of or N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	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 100  for N-conductor protection / Full-scale value A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details			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  Adjustable response value current / of the current-dependent overload release / initial value  Product details	Suitability		
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 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	· · · · · · · · · · · · · · · · · · ·		system protection
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 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	Adjustable parameters		
• for N-conductor protection / initial value     • for N-conductor protection / Full-scale value     • for N-conductor protection / Full-scale value     • A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	Adjustable response value current		
◆ for N-conductor protection / Full-scale value     A 100  Adjustable response value current / of the current- dependent overload release / initial value  Product details	• of I-trip / Full-scale value	Α	10
Adjustable response value current / of the current- dependent overload release / initial value  Product details  0.7	• for N-conductor protection / initial value	Α	100
Product details	• for N-conductor protection / Full-scale value	Α	100
	-	Α	0.7
	Product details		
r roudet component	Product component		

		l N
• 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		3VA1120-6GF46-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(Ics)		
● at 240 V / Rated value	kA	100
• at 415 V / Rated value	kA	70
• at 440 V / Rated value	kA	36
● 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	100
● at 415 V / Rated value	kA	70
● at 440 V / Rated value	kA	36
• at 500 V / Rated value	kA	20
• at 690 V / Rated value	kA	10
Short-circuit current making capacity (Icm)		
• at 240 V / Rated value	kA	220
• at 415 V / Rated value	kA	154
• at 690 V / Rated value	kA	17
Connections		
Arrangement of electrical connectors / for main		Front terminal
current circuit		
Type of connectable conductor cross-section		

<ul> <li>of the round conductor terminal / stranded</li> </ul>		1 x (1.5 - 70 mm²)
Type of electrical connection / for main current circuit		Box 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
during storage / minimum	°C	-40
during storage / maximum	°C	80
Certificates		
Equipment marking		
• acc. to DIN EN 61346-2		Q

**Product** Conformity **Approval** other

other

other



General



**Declaration of** 



Q

**Shipping Approval** 



#### Further information

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

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

Industry Mall (Online ordering system)

• acc. to DIN EN 81346-2

**EMC** 

https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11206GF460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11206GF460AA0/all

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

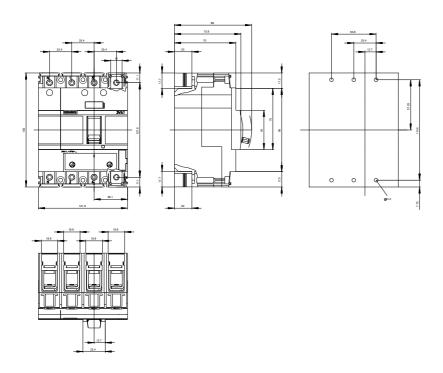
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11206GF460AA0

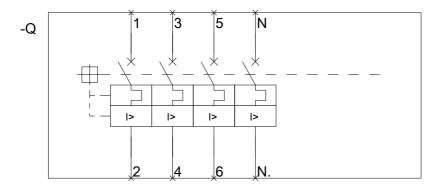
**CAx-Online-Generator** 

http://www.siemens.com/cax

**Tender specifications** 

http://ausschreibungstexte.siemens.com/tiplv





last modified: 11.03.2015