# **SIEMENS**

## Data sheet

## 3VA1180-6GF46-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS H ICU=70KA @ 415 V 4-POLE, LINE PROTECTION TM240, ATAM, IN=80A OVERLOAD PROTECTION IR=56A ...80A SHORT CIRCUIT PROTECTION II=5...10 X IN NEUTRAL PROTECTION 100% CABLE 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 Protective function of the overcurrent release  Switching capacity  Switching capacity  Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  W 19,2  Electricity  Continuous current / Rated value / maximum  A 160  Continuous 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 C/ 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 66 °C / Rated value  • at 67 °C / Rated value  • at 70 °C / Rated valu	Protection class IP		IP40
Switching capacity  Switching capacity class of the circuit breaker  Pissipation  Active power loss  • maximum  W 19.2  Electricity  Continuous current / Rated value / maximum  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 il-trip / Full-scale value  • of il-trip / Full-scale value  • of r N-conductor protection / Full-scale value  • of the instantaneous short-circuit release / initial value  • of the instantaneous short-circuit release / initial value  • of r N-conductor protection / initial value  • of the instantaneous short-circuit of the current-  • of I-trip / Full-scale value  Adjustable response value current / of the 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 the current-  • of N-conductor protection / full-scale value	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker  Dissipation  Active power loss • maximum    M   19.2	Protective function of the overcurrent release		LI
Switching capacity class of the circuit breaker  Dissipation  Active power loss • maximum    M   19.2	Switching capacity		
Active power loss			н
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  • of the instantaneous short-circuit release / initial value  Main circuit  Operating voltage  • with AC / at 50/60 Hz / Rated value  • for DC / Rated value  • of or DC / Rated value  • 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 70 °C / Rated value  A 75  • at 67 °C / Rated value  A 74  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability for use  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-			
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  Main circuit  Operating voltage  with AC / at 50/60 Hz / Rated value  of or DC / Rated value  V 690  Operating current  at 40 °C / Rated value  A 80  at 55 °C / Rated value  A 78  at 60 °C / Rated value  A 77  at 65 °C / Rated value  A 77  at 65 °C / Rated value  A 75  at 60 °C / Rated value  A 75  at 60 °C / Rated value  A 74  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Sultability  Sultability for use  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  A 10  of or N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-  Adjustable response value current / of the current-	• maximum	W	19.2
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 or DC / Rated value  V 690  Operating current  at 40 °C / Rated value  A 80  oat 55 °C / Rated value  A 78  at 65 °C / Rated value  A 77  at 65 °C / Rated value  A 75  at 70 °C / Rated value  A 74  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  A 10  of or N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-  Adjustable response value current / of the current-	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-circuit short-circuit short-circuit short-circuit short-circui	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 600  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     at 67 °C / Rated value     at 67 °C / Rated value     at 68 °C / Rated value     at 67 °C / Rated value     A 75     at 70 °C / Rated value     A 74  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  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-	Continuous current / Rated value	Α	80
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 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 77 °C / Rated value  A 75  • at 70 °C / Rated value  A 74  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitable parameters  Adjustable parameters  Adjustable response value current /  • 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-	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         80           • at 50 °C / Rated value         A         78           • at 55 °C / Rated value         A         77           • at 65 °C / Rated value         A         75           • at 70 °C / Rated value         A         74           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         A         10           • for N-conductor protection / initial value         A         100           • for N-conductor protection / Full-scale value         A         100           Adjustable response value current / of the current-         A         0.7		Α	1
Operating voltage		Α	5
with AC / at 50/60 Hz / Rated value     for DC / Rated value     V 600  Operating current     at 40 °C / Rated value     A 80     at 50 °C / Rated value     A 80     at 55 °C / Rated value     A 78     at 60 °C / Rated value     A 77     at 65 °C / Rated value     A 75     at 70 °C / Rated value     A 75     at 70 °C / Rated value     A 74  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     for N-conductor protection / initial value     of for N-conductor protection / Full-scale value  Adjustable response value current / of the current-  Adjustable response value current / of the current-  Adjustable response value current / of the current-	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 60 °C / Rated value  • at 65 °C / Rated value  • at 77  • at 65 °C / Rated value  • at 70 °C / Rated value  A 75  • at 70 °C / Rated value  A 74  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-  Adjustable response value current / of the current-  Adjustable response value current / of the current-	• 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 77  at 65 °C / Rated value  A 75  at 70 °C / Rated value  A 75  at 70 °C / Rated value  A 74   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-  Adjustable response value current / of the current-	• for DC / Rated value	V	600
at 50 °C / Rated value at 55 °C / Rated value A 78  at 60 °C / Rated value A 77  at 65 °C / Rated value A 75  at 70 °C / Rated value A 74   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 A 10  for N-conductor protection / Full-scale value  Adjustable response value current  of N-conductor protection / Full-scale value Adjustable response value current  Adjustable response value current  Adjustable response value current / of the current-  Adjustable response value current / of the current-  Adjustable response value current / of the current-	Operating current		
at 55 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value At 75  at 70 °C / Rated value At 74  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 of rN-conductor protection / Full-scale value Adjustable response value current / of the current- Adjustable response value current / of the current-  Adjustable response value current / of the current-  A 0.7	• at 40 °C / Rated value	Α	80
at 60 °C / Rated value  at 65 °C / Rated value  A 75  at 70 °C / Rated value  A 74   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-  Adjustable response value current / of the current-  Adjustable response value current / of the current-	• at 50 °C / Rated value	Α	80
at 65 °C / Rated value  at 70 °C / Rated value  A 75  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-  Adjustable response value current / of the current-  A 0.7	• at 55 °C / Rated value	Α	78
at 70 °C / Rated value  A 74  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  for N-conductor protection / Full-scale value  Adjustable response value current / of the current-  Adjustable response value current / of the current-	• at 60 °C / Rated value	Α	77
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-  Adjustable response value current / of the current-	• at 65 °C / Rated value	Α	75
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-  Adjustable response value current / of the current-	• at 70 °C / Rated value	Α	74
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-  Adjustable response value current / of the current-	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  Adjustable response value current / of the current-  Adjustable value  system protection  A 10  A 10  A 100  Adjustable response value current / of the current-  A 0.7			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-  Adjustable value  system protection  A 10  A 10  A 100  Adjustable response value current / of the current-  A 0.7	Suitability		
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-  A 0.7	· · · · · · · · · · · · · · · · · · ·		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-</li> <li>A 0.7</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-</li> <li>A 0.7</li> </ul>	Adjustable response value current		
<ul> <li>◆ for N-conductor protection / Full-scale value</li> <li>Adjustable response value current / of the current-</li> <li>A 0.7</li> </ul>	• of I-trip / Full-scale value	Α	10
Adjustable response value current / of the current- A 0.7	• for N-conductor protection / initial value	Α	100
	• for N-conductor protection / Full-scale value	Α	100
	•	Α	0.7
Product details	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		
Intrinsic device protection		Yes
communication function		No
Phase failure detection		No
other measurement function		No
Accessories		
Manufacturer article number / of the supplied basic		3VA1180-6GF46-0AA0
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 (lcm)		
• at 240 V / Rated value	kA	220
- 1445V//D ( )	N/A	
● at 415 V / Rated value	kA	154
at 415 V / Rated value  at 690 V / Rated value		
	kA	154
at 690 V / Rated value  Connections  Arrangement of electrical connectors / for main	kA	154
at 690 V / Rated value  Connections	kA	154 17

<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
<ul><li>during storage / maximum</li></ul>	°C	80
Certificates		
Equipment marking		
• acc. to DIN EN 61346-2		Q
• acc. to DIN EN 81346-2		Q

General

**Product** 

**Approval** 

other

**EMC** 



**Declaration of** 

Conformity



**Shipping Approval** 



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/3VA11806GF460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11806GF460AA0/all

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

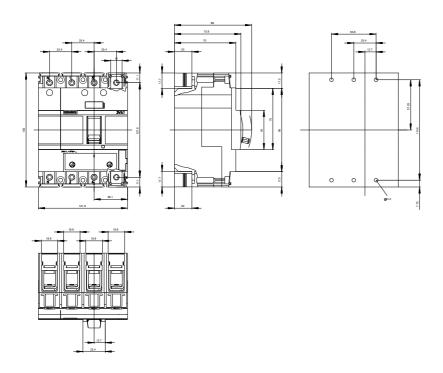
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11806GF460AA0

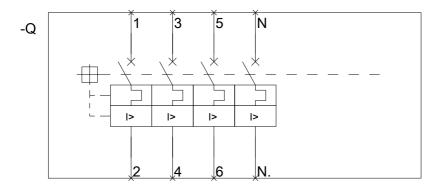
**CAx-Online-Generator** 

http://www.siemens.com/cax

**Tender specifications** 

http://ausschreibungstexte.siemens.com/tiplv





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