# **SIEMENS**

### Data sheet

# 3VA1140-4GF46-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS S ICU=36KA @ 415 V 4-POLE, LINE PROTECTION TM240, ATAM, IN=40A OVERLOAD PROTECTION IR=28A ...40A 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  S  Dissipation  Active power loss  • maximum  W 10.8  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  • for DC / Rated value  • of the 7 C / Rated value  • at 40 °C / Rated value  • at 40 °C / Rated value  • at 50 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 70 °C	Protection class IP		IP40
Switching capacity  Switching capacity class of the circuit breaker  Dissination  Active power loss  • maximum  W 10.8  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 or DC / Rated value  • of DC / Rated value  • at 40 °C / Rated value  • at 55 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 60 °C / Rated valu	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  Dissipation  Active power loss  • maximum  A 160  Continuous current / Rated value / maximum  A 160  Adjustable response value current  • of the current-dependent overload release / Full-scale value  • of the instantaneous short-circuit release / initial value  • of the instantan	Protective function of the overcurrent release		Ц
Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  Dissipation  Active power loss  • maximum  A 160  Continuous current / Rated value / maximum  A 160  Adjustable response value current  • of the current-dependent overload release / Full-scale value  • of the instantaneous short-circuit release / initial value  • of the instantan	Switching capacity		
Active power loss			S
Active power loss	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 the 2 Rated value  • at 40 °C / 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 38  • at 67 °C / Rated value  • at 70 °C /	<u> </u>		
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 or DC / Rated value  of or C / Rated value  of C / Rated	• maximum	W	10.8
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 current of the current-value  A	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-of the current-o		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     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 67 °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	Continuous current / Rated value	Α	40
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 70 °C / Rated value  A 38  • at 70 °C / Rated value  A 37  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitable parameters  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / Full-scale value  A 100  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         40           • at 50 °C / Rated value         A         39           • at 60 °C / Rated value         A         39           • at 65 °C / Rated value         A         38           • at 70 °C / Rated value         A         37           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 40     at 50 °C / Rated value     A 40     at 55 °C / Rated value     A 39     at 60 °C / Rated value     A 39     at 60 °C / Rated value     A 38     at 70 °C / Rated value     A 37  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     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 70 °C / Rated value  • at 70 °C / Rated value  A 38  • at 70 °C / Rated value  A 37  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-	• 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 55 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value At 39 at 70 °C / Rated value At 37  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 39 at 60 °C / Rated value A 39 at 65 °C / Rated value A 38 at 65 °C / Rated value A 38 at 70 °C / Rated value A 37  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 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-  Adjustable response value current / of the current-  A 0.7	Operating current		
at 55 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value At 38  at 70 °C / Rated value At 37  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 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-  Adjustable response value current / of the current-	• at 40 °C / Rated value	Α	40
at 60 °C / Rated value at 65 °C / Rated value A 38  at 70 °C / Rated value A 37   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	40
at 65 °C / Rated value  at 70 °C / Rated value  A 38  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	39
at 70 °C / Rated value  A 37  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	39
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	38
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	37
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 / initial value A 100  Adjustable response value current / of the current-  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 response value current / of the current-			0
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-  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	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-</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			

		l N
Trip indicator		No 
<ul><li>display</li></ul>		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		3VA1140-4GF46-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(Ics)		
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 (Icm)		
• 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
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
<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/3VA11404GF460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11404GF460AA0/all

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

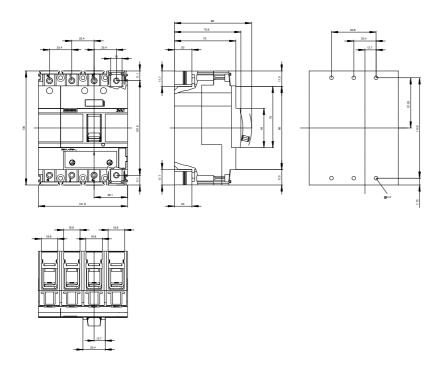
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11404GF460AA0

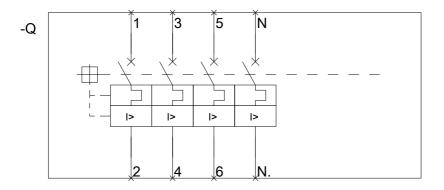
**CAx-Online-Generator** 

http://www.siemens.com/cax

**Tender specifications** 

http://ausschreibungstexte.siemens.com/tiplv





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