SIEMENS

Data sheet

3VA1180-4GE46-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS S ICU=36KA @ 415 V 4-POLE, LINE PROTECTION TM220, ATFM, IN=80A OVERLOAD PROTECTION IR=56A ...80A SHORT CIRCUIT PROTECTION II=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	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		
Insulation voltage / Rated value	V	800

Protection class

Protection class IP / on the front Protective function of the overcurrent release Switching capacity Switch	Protection class IP		IP40
Switching capacity Switching capacity class of the circuit breaker Dissipation Active power loss • maximum W 19.2 Electricity Continuous current / Rated value / maximum • of the current-dependent overload release / A 1 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 DPC / Rated value • of DPC / 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 65 °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 19.2 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 50/60 Hz / Rated value • for DC / Rated value • for DC / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated va	Protective function of the overcurrent release		LI
Switching capacity class of the circuit breaker Dissipation Active power loss • maximum W 19.2 Electricity Continuous current / Rated value / maximum A Gontinuous current / Rated value • 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 • 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 77 • at 77 • at 75 • at 70 °C / Rated value • at 74 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability or 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-dependent overload release / initial 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 Adjustable response value current / of the current-dependent overload release / initial value	Switching capacity		
Active power loss			S
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 60 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value •			
Continuous current / Rated value / maximum Continuous current / Rated value A 80 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 v. C. Rated value • of or v. C. Ontacts / for auxiliary contacts O Sultability • of v. C. Ontacts / for auxiliary contacts Adjustable response value current • of l.trip / Full-scale value • for v. C. Onductor protection / initial value • of or v. C. Ontacts / of the current-dependent overload release / initial value	• 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 of the instantaneous short-circuit release / initial value Main circuit Operating voltage with AC / at 50/60 Hz / Rated value of rD C / Rated value of rD C / Rated value A 80 oat 50 °C / Rated value at 50 °C / Rated value at 60 °C / Rated value A 75 oat 70 °C / Rated value A 75 oat 70 °C / Rated value A 74 Auxiliary circuit Number of CO contacts / for auxiliary contacts Osuitability Suitability Suitability Suitabile parameters Adjustable parameters Adjustable parameters Adjustable response value current of r 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 A 10 value Main circuit Operating voltage of DC / Rated value of DC / Rated value value Operating current of A 80 of A 77 of A 78 of A 77 of A 78 of A 79 of A 79 of A 79 of A 74 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitability of ruse 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 A 100 Adjustable response value current / of the current-dependent overload release / initial value	Continuous current / Rated value / maximum	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 for DC / Rated value v 690 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 valu	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 of or DC / Rated value Vofe00 Operating current of the foliated value A 80 of the foliated value A 76 of the foliated value A 77 of the foliated value A 75 of the foliated value A 75 of the foliated value A 74 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 of or N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 0.7 divistable response value current / of the current-dependent overload release / initial value	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 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 system protection Adjustable parameters Adjustable parameters Adjustable response value current • of I-trip / Full-scale 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		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 80 • at 50 °C / Rated value A 78 • at 60 °C / Rated value A 77 • at 60 °C / Rated value A 77 • at 60 °C / Rated value A 77 • at 60 °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 Suitable parameters 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 A 100 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 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 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 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 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 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 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 A 10 Adjustable response value current / of the current-dependent overload release / initial value A 0.7	Operating voltage		
Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value • at 77 • at 65 °C / Rated value • 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 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 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 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 / 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 A 75 at 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 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 A 0.7	Operating current		
at 55 °C / Rated value at 60 °C / Rated value A 77 at 60 °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-dependent overload release / initial value 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 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	80
at 65 °C / Rated value 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 Adjustable response value current / of the current- dependent overload release / initial value A 75 A 74 A 10 A 1	• at 55 °C / Rated value	Α	78
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 A 100 Adjustable response value current / of the current-dependent overload release / initial value A 0.7	• 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-dependent overload release / initial value	• 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-dependent overload release / initial value 0 System protection A	• 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-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 for N-conductor protection / Full-scale value A 100 of Intrip / Full-scale value A 100 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 100 of N-conductor protection / Full-scale value A 100 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 100 for N-conductor protection / Full-scale value A 100 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 Adjustable response value current / of the current-dependent overload release / initial value A 10 A 100 A 0.7			
 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 100 A 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 100 A 0.7	● of I-trip / Full-scale value	Α	10
Adjustable response value current / of the current- dependent overload release / initial value A 0.7	• for N-conductor protection / initial value	Α	100
dependent overload release / initial value	• for N-conductor protection / Full-scale value	Α	100
Product details	•	А	0.7
1 Todact dotailo	Product details		
Product component			

		NI-
Trip indicator		No
• display		No
Voltage trigger		No
undervoltage release		No
 undervoltage release with leading contact 		No
Product property		
 for neutral conductors / upgradeable/retrofittable / Short-circuit and overload proof 		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		3VA1180-4GE46-0AA0
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 (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		

• of the round conductor ter	minal / stranded		1 x (1.5 - 70 mm²)		
Type of electrical connection / f	or main current circuit		Box terminal		
Mechanical Design					
			100		
Height		mm	130		
Width		mm	101.6		
Depth		mm	70		
Mounting type			fixed mounting		
Environmental conditions					
Ambient temperature					
during operation / minimu	m	°C	-25		
during operation / maximu	ım	°C	70		
during storage / minimum		°C	-40		
during storage / maximum	1	°C	80		
Certificates					
Equipment marking					
• acc. to DIN EN 61346-2			Q		
• acc. to DIN EN 81346-2			Q		
General EMC	Declaratio	n of	Shipping Approval		other

Further information

Product

Approval

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

other

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

Industry Mall (Online ordering system)
https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11804GE460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11804GE460AA0/all

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

Conformity

EG-Konf.

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11804GE460AA0

CAx-Online-Generator

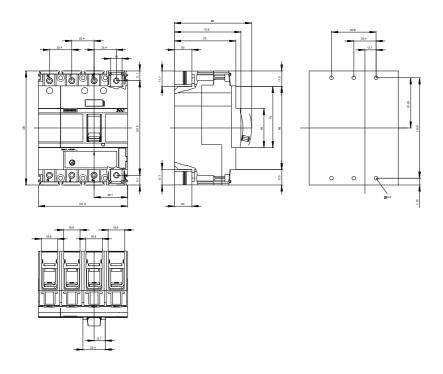
http://www.siemens.com/cax

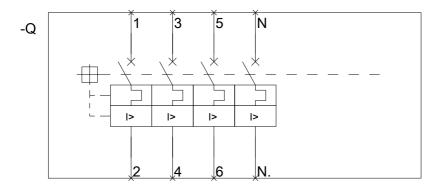
Tender specifications

http://ausschreibungstexte.siemens.com/tiplv

other

GL





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