SIEMENS

Data sheet

3VA1180-3GE46-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS N ICU=25KA @ 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 Switching capacity class of the circuit breaker N Dissipation Active power loss • maximum W 19.2 Electricity Continuous current / Rated value / maximum Active power loss • 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 55 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value • at 70 °C / Rated value A 75 • at 60 °C Operating the formula of the current • at 60 °C / Rated value • at 70 °C /	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	Protective function of the overcurrent release		LI
Switching capacity class of the circuit breaker Dissipation	Switching capacity		
Active power loss			N
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 50/80 Hz / Rated value • for DC / Rated value • at 40 °C / Rated value • at 40 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 75 °C / Rated value • at 75 °C / Rated value • at 75 °C / Rated value • at 76 °C / Rated value • at 77 • at 70 °C / Rated value • at 77 • at 70 °C / Rated value • at 70 °C / Rated value • at 75 °C / Rated value • at 70 °C / Rated value • at 75 °C / Rated value • at 76 °C / Rated value • at 76 °C / Rated value • at 76 °C / Rated value • at 70 °C / Rated value • at 76 °C / Rated value • at 70 °			
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 instantaneous short-circuit release / initial value of the current-circuit release / initial value of the instantaneous short-circuit release / initial value of the current-circuit release / initial value of the current-circuit release / initial value A 80 of the current-circuit 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 Main circuit Operating voltage with AC / at 50/60 Hz / Rated value of r DC / Rated value of r DC / Rated value A 80 Operating current of the instantaneous short-circuit release / initial value of r DC / Rated value of the instantaneous short-circuit release / initial value of r DC / Rated value of r DC / Rated value of r NC / Rated value of the instantaneous short-circuit release / initial value of r NC / Rated value of r NC / Rated value of r N-conductor protection / initial value of r 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	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 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 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 • for DC / Rated value V 690 Operating current • at 40 °C / Rated value A 80 • at 50 °C / Rated value A 80 • at 55 °C / Rated value A 77 • 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 Suitabile 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-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 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 for use system protection 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 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 600 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 65 °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 • of I-trip / Full-scale value • for N-conductor protection / 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 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 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 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 100 Adjustable response value current / of the current-dependent overload release / initial value A 0.7	Main circuit		
for DC / Rated value Operating current			
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 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 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	• 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 Suitabile parameters Adjustable parameters Adjustable response value current of I-trip / Full-scale value A 10 for N-conductor protection / initial value of ror 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 55 °C / Rated value at 55 °C / Rated value at 60 °C / Rated value 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 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	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 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 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 for use 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	78
• at 70 °C / Rated value 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 74 A 74 A 74 A 74 A 10 A 10 A 10 A 100 Adjustable response value current / of the current-dependent overload release / initial value	• 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
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 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 of Initial value A 100 Adjustable response value current / of the current-dependent overload release / initial value	· · · · · · · · · · · · · · · · · · ·		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	Adjustable parameters		
 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 A 100 Adjustable response value current / of the current- dependent overload release / initial value	• 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	А	100
dependent overload release / initial value	• for N-conductor protection / Full-scale value	Α	100
Product details	•	A	0.7
	Product details		
Product component			

		Na
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 switch		3VA1180-3GE46-0AA0
Short circuit		
Operational short-circuit current breaking capacity		
(Ics)		
• at 240 V / Rated value	kA	36
• at 415 V / Rated value	kA	25
• at 440 V / Rated value	kA	16
• at 500 V / Rated value	kA	8
• at 690 V / Rated value	kA	5
Maximum short-circuit current breaking capacity (Icu)		
• at 240 V / Rated value	kA	36
• at 415 V / Rated value	kA	25
• at 440 V / Rated value	kA	16
• at 500 V / Rated value	kA	8
• at 690 V / Rated value	kA	7
Short-circuit current making capacity (Icm)		
• at 240 V / Rated value	kA	75.6
• at 415 V / Rated value	kA	52.5
• 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 terminal / stranded 		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		
during operation / minimum	°C	-25
during operation / maximum	°C	70
• during storage / minimum	°C	-40
during storage / maximum	°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/3VA11803GE460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11803GE460AA0/all

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

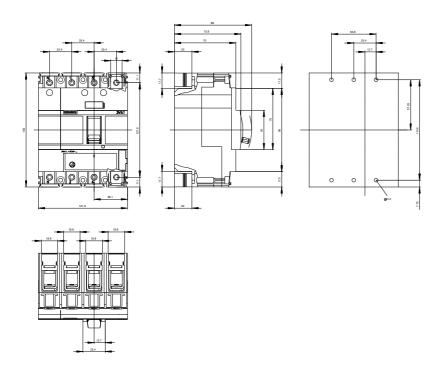
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11803GE460AA0

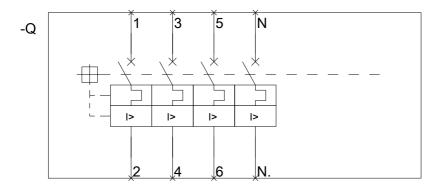
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





last modified: 11.03.2015