SIEMENS

Data sheet

3VA1180-3EE46-0AA0



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 UNPROTECTED 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 IP40 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 A 160 Continuous current / Rated value / maximum A 160 Continuous current / Rated value • 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 DC / Rated value • for DC / Rated value • for DC / 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 / R	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 / 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 C / Rated value • with AC / at 50/60 Hz / Rated value • of to DC / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 60 °C / Rated value • at 70 °C / Rated value •	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 / 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 DC / Rated value • of DC / Rated value • of DC / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value • at 70 °	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 • 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 DC / Rated value • of DC / Rated value • of DC / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value • at 70 °	Switching capacity		
Active power loss • maximum M			N
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 • at 40 °C / Rated value • at 40 °C / Rated value • at 55 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rate			
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 • for DC / Rated value • v 690 Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 65 °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 65 °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 / Full-scale value • for N-conductor protection / Full-scale value Adjustable response value 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 Main circuit Operating voltage with AC / at 50/60 Hz / Rated value of r DC / Rated value V 690 Operating current of the instantaneous short-circuit release / initial value V 690 Operating voltage vith AC / at 50/60 Hz / Rated value V 690 Operating current of the instantaneous short-circuit release / initial value A 80 of Departing current of the vith AC / Rated value A 80 of the vith AC / Rated value A 78 of the vith AC / Rated value A 78 of the vith AC / Rated value A 77 of the vith AC / Rated value A 75 of Rated value A 75 of Rated value A 75 of Rated value A 74 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitabile parameters Adjustable parameters Adjustable parameters Adjustable response value current of the vith of Vith Courrent-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 Main circuit Operating voltage with AC / at 50/60 Hz / Rated value of DC / Rated value V 690 Operating current oat 40 °C / Rated value A 80 oat 50 °C / Rated value A 80 oat 55 °C / Rated value A 78 oat 65 °C / Rated value A 77 oat 65 °C / Rated value A 75 oat 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 or N-conductor protection / Full-scale value A 70 Auxiliary circuit A 10 Auxiliary circuit A 10 Auxiliary circuit A 10 Apjustable response value current of or N-conductor protection / Full-scale value A 10 Adjustable response value current / of the current-dependent overload release / initial value A 0.7	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 of DC / Rated value vertice of Pated 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 A 74 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitabile parameters Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / Full-scale value of or N-conductor protection / Full-scale value A 0 Adjustable response value current / of the current-dependent overload release / initial value A 0.7	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 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 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 74 Adjustable response value current / of the current-dependent overload release / initial value A 0.7 Adjustable 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 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 response value current • of I-trip / Full-scale value • for N-conductor protection / Full-scale value • A 0 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 77 • at 60 °C / Rated value A 77 • 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 response value current • of I-trip / Full-scale value • for N-conductor protection / initial value • for N-conductor protection / Full-scale value A 0 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 A 80 • at 50 °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 76 • at 70 °C / Rated value A 77 • at 65 °C / Rated value A 76 • 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 A 10 • for N-conductor protection / Full-scale value A 0 Adjustable response value current / of the current-dependent overload release / initial value	Main circuit		
for DC / Rated value	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 65 °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 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	• with AC / at 50/60 Hz / Rated value	V	690
at 40 °C / Rated value at 50 °C / Rated value A 80 at 50 °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 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	• 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 70 °C / Rated value A 75 at 70 °C / Rated value A 74 Auxiliary circuit Number of CO contacts / for auxiliary contacts 0 Suitability Suitability or use 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	Operating current		
at 55 °C / Rated value at 60 °C / Rated value At 77 at 60 °C / Rated value At 75 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 Suitability for use Adjustable parameters Adjustable parameters Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value 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 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 74 A 75 A 74 A 10 A 0 A 0 A 0 A 0 A 0 A 0 A	• at 55 °C / Rated value	Α	78
at 70 °C / Rated value 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	• 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 10 0 0 0 0 0 0 0 0 0 0 0 0	• 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 10 0 0 0 0 0 0 0 0 0 0 0 0	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-dependent overload release / initial value system protection A 10 A 0 O 0 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 0 Adjustable response value current / of the current-dependent overload release / initial value system protection A 10 A 0 0 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 0 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 A 0 Adjustable response value current / of the current-dependent overload release / initial value A 10 A 0 A 0 O 0 Adjustable response value current / of the current-dependent overload release / initial value	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 0 0.7			
• for N-conductor protection / Full-scale value Adjustable response value current / of the current- dependent overload release / initial value A 0 O.7	• of I-trip / Full-scale value	Α	10
Adjustable response value current / of the current- A 0.7 dependent overload release / initial value	• for N-conductor protection / initial value	Α	0
dependent overload release / initial value	• for N-conductor protection / Full-scale value	Α	0
	•	Α	0.7
Product details	Product details		
Product component			

		l N
• 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		3VA1180-3EE46-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(lcs)		
• 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 (lcm)		
• 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
		Front terminal

• of the round condu	uctor terminal / stra	anded			1 x (1.5 - 70 mm²)	
Type of electrical conne	ection / for main cu	rrent circuit			Box terminal	
Mechanical Design						
Height			mm		130	
Width			mm		101.6	
Depth			mm		70	
Mounting type					fixed mounting	
Environmental condition	ons					
Ambient temperature						
during operation /	minimum		°C		-25	
during operation /	during operation / maximum		°C		70	
during storage / m	ninimum		°C		-40	
during storage / m	naximum		°C		80	
Certificates						
Equipment marking						
• acc. to DIN EN 61346-2				Q		
• acc. to DIN EN 81	• acc. to DIN EN 81346-2				Q	
General E	EMC	Declaration	n of	Ship	pping Approval	other



Product

Approval

other



Conformity





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/3VA11803EE460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11803EE460AA0/all

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

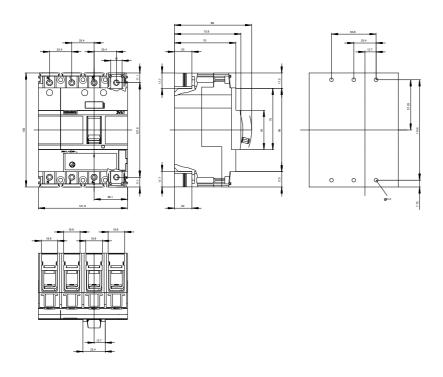
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11803EE460AA0

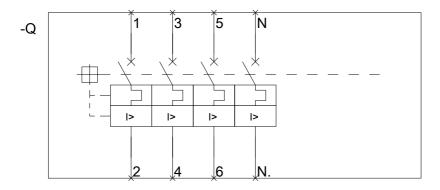
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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