SIEMENS

Data sheet

3VA1180-4EF42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS S ICU=36KA @ 415 V 4-POLE, LINE PROTECTION TM240, ATAM, IN=80A OVERLOAD PROTECTION IR=56A ...80A SHORT CIRCUIT PROTECTION II=5...10 X IN NEUTRAL UNPROTECTED BUSBAR CONNECTION

Figure similar

Model		
product brand name	SENTRON	
Product designation	Molded case circuit brea	ker
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 Switching capacity class of the circuit breaker S Dissipation Active power loss • maximum W 19.2 Electricity Continuous current / Rated value / maximum Active power loss • maximum A 160 Continuous current / Rated value / maximum A 160 Adjustable response value current • of the current-dependent overload release / A 1 Full-scale value • of the instantaneous short-circuit release / initial value Operating voltage • with AC / at 50/60 Hz / Rated value • v 600 Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 50 °C / Rated value • at 65 °C / Rated value • at 67 °C / Rated value • at 77 • at 68 °C / Rated value • at 77 • at 66 °C / Rated value • at 70 °C / Rated value	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 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		Ц
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	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 current-dependent overload release / initial value A 1 • of the current-dependent overload release / initial value A 10 • of r N-conductor protection / Full-scale value A 20 Adjustable response value current / 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 at 70 °C / Rated value A 75 at 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 00 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 5 value Main circuit Operating voltage of DC / Rated value of DC / Rated value v 690 Operating current of A 80 of A 77 of A 80 of A 74 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitability for use system protection 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 0 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 at 40 °C / Rated value A 80 at 55 °C / Rated value A 80 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 Suitabile parameters Adjustable parameters Adjustable response value current of I-trip / Full-scale value A 10 Adjustable response value current of or 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		
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 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 system protection Adjustable parameters Adjustable parameters Adjustable response value current • of I-trip / Full-scale value • for N-conductor protection / Full-scale value A 0 • for N-conductor protection / Full-scale value • A 0.7 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 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 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 0 Adjustable response value current / of the current-dependent overload release / initial value		Α	5
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 65 °C / Rated value 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 0 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 50 °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 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 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 Adjustable parameters Adjustable response value current of I-trip / Full-scale value A 10 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 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 of or N-conductor protection / initial value of 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 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 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 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	• 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 A 0 Adjustable response value current / of the current-dependent overload release / initial value system protection A 0 0 0 0 0 0 0 0 0 0 0 0 0			0
Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value of Intrip / Full-scale value A 10 of Intrip / Full-scale value A 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	Suitability for use		system protection
of I-trip / Full-scale value of r N-conductor protection / initial value of r N-conductor protection / Full-scale value of r N-conductor protection / Full-scale value A of r N-conductor protection / Full-scale value A 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	Adjustable response value current		
• for N-conductor protection / Full-scale value Adjustable response value current / of the current- dependent overload release / initial value A 0 0.7	• 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	Α	0
dependent overload release / initial value	• for N-conductor protection / Full-scale value	Α	0
Product details	•	Α	0.7
Product details	Product details		
Product component			

		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		3VA1180-4EF42-0AA0
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
Type of connectable conductor cross-section		

• for flat-bar terminal connection / minimum	12 x 0
• for flat-bar terminal connection / maximum	17 x 6.5
Type of electrical connection / for main current circuit	Lug 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

Q • acc. to DIN EN 61346-2 Q • acc. to DIN EN 81346-2

General Product Approval	EMC	Declaration of	Shipping Approval
		Conformity	





other







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/3VA11804EF420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11804EF420AA0/all

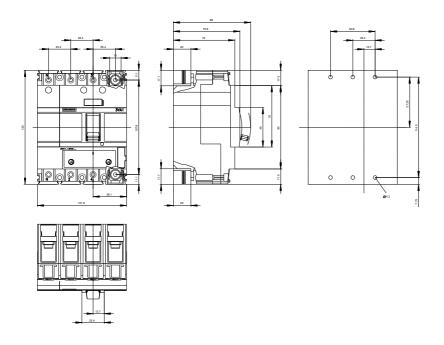
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11804EF420AA0

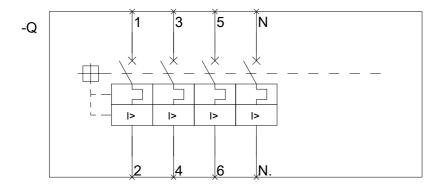
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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