SIEMENS

Data sheet

3VA1116-3FE46-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS N ICU=25KA @ 415 V 4-POLE, LINE PROTECTION TM220, ATFM, IN=160A OVERLOAD PROTECTION IR=112A ...160A SHORT CIRCUIT PROTECTION II=10 X IN NEUTRAL PROTECTION 50% 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 Switching capacity class of the circuit breaker N Dissipation Active power loss • maximum W 38 Electricity Continuous current / Rated value / maximum	Protection class IP		IP40				
Switching capacity Switching capacity class of the circuit breaker Dissipation Active power loss • maximum W 38 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 • of the C / Rated value • of the day alue • of the C / Rated value • 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 70	Protection class IP / on the front		IP40				
Switching capacity class of the circuit breaker Dissipation Active power loss • maximum W 38 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 • 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 60 °C / Rated value • at 65 °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 38 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 • 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 60 °C / Rated value • at 65 °C / Rated value • at 70	Switching capacity	Switching canacity					
Active power loss • maximum Electricity Confinuous current / Rated value / maximum A 160 Continuous current / Rated value • 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 firstantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the instantaneous short-circuit release / initial value • of the current Operating voltage • with AC / at 50/60 Hz / Rated value • for DC / Rated value • of 40 °C / 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 70 °C / Rated			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 50/60 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 67 °C / Rated value • at 70 °C / Rated value •							
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-dependent overload release / initial value A 160 100 100 100 100 100 100 100	• maximum	W	38				
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 or DC / Rated value of or DC / Rated value of or DC / Rated value at 50 °C / Rated value at 60 °C / Rated value at 70 °C / Rated value bat 70 °C / Rated value at 70 °C / Rated value at 70 °C / Rated value at 70 °C / Rated value bat 70 °C / Rated value at 70 °C / Rated value at 70 °C / Rated value at 70 °C / Rated value bat 70 °C / Rated value at 70 °C / Rated value A 150 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 / Full-scale value for N-conductor protection / Full-scale value A 0.5 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 A	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 value Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitabile parameters Adjustable parameters Adjustable response value current of 1-trip / Full-scale value for N-conductor protection / initial value A 0.5 Adjustable response value current of the current-dependent overload release / initial value	Continuous current / Rated value	Α	160				
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 Operating current • at 40 °C / Rated value A 160 • at 50 °C / Rated value A 160 • at 55 °C / Rated value A 155 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 153 • at 70 °C / Rated value A 150 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 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 V 690 ● for DC / Rated value V 600 Operating current ● at 40 °C / Rated value A 160 ● at 55 °C / Rated value A 158 ● at 60 °C / Rated value A 155 ● at 65 °C / Rated value A 153 ● at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use System protection Adjustable parameters Adjustable response value current ● for N-conductor protection / initial value A 0.5 ● for N-conductor protection / Full-scale value A 0.5 Adjustable response value current / of the current-dependent overload release / initial value A 0.7		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 160 • at 50 °C / Rated value A 160 • at 50 °C / Rated value A 158 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 153 • at 70 °C / Rated value A 150 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 0.5 Adjustable response value current / of the current-dependent overload release / initial value		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 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 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts O Suitability Suitability Suitabile 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 Adjustable response value current / of the current-dependent overload release / initial value	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 at 65 °C / Rated value at 70 °C / Rated value A 153 at 70 °C / Rated value A 150 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 of or 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 A 0.7	Operating voltage						
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 A 153 • at 70 °C / Rated value A 150 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 at 55 °C / Rated value at 60 °C / Rated value A 158 at 60 °C / Rated value A 155 at 65 °C / Rated value A 153 at 70 °C / Rated value A 150 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 of or N-conductor protection / Full-scale value Adjustable response value current / Of the current-dependent overload release / initial value A 0.5 Adjustable response value current / of the current-dependent overload release / initial value	• 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 at 65 °C / Rated value at 70 °C / Rated value At 153 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 or N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 0.5 Adjustable response value current / of the current-dependent overload release / initial value	Operating current						
at 55 °C / Rated value at 60 °C / Rated value At 155 at 60 °C / Rated value At 153 at 70 °C / Rated value At 150 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 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	160				
at 60 °C / Rated value at 65 °C / Rated value At 153 at 70 °C / Rated value At 150 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 At 10 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 Adjustable response value current / of the current-dependent overload release / initial value	• at 50 °C / Rated value	Α	160				
at 65 °C / Rated value at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts 0 Suitability Suitability or 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 Adjustable response value current / of the current Adjustable response value current / of the current-dependent overload release / initial value A 0.7	• at 55 °C / Rated value	Α	158				
at 70 °C / Rated value A 150 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 of ror N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value A 0.5 Adjustable response value current / of the current-dependent overload release / initial value A 0.7	• at 60 °C / Rated value	Α	155				
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	153				
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 0 10 10 10 10 10 10 10 10	• at 70 °C / Rated value	Α	150				
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 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 0.5 of Intrip / Full-scale value A 0.5 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 0.5 of Intrip / Full-scale value A 0.5 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 0.5 of Initial value A 0.5 Adjustable response value current / of the current-dependent overload release / initial value	· · · · · · · · · · · · · · · · · · ·		system protection				
Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value for N-conductor protection / Full-scale value A 0.5 of Initial value A 0.5 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 0.5 A 0.7	Adjustable response value current						
• for N-conductor protection / Full-scale value A 0.5 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	0.5				
dependent overload release / initial value	• for N-conductor protection / Full-scale value	Α	0.5				
Product details	•	A	0.7				
Troduct 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		3VA1116-3FE46-0AA0
switch		
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 (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
current circuit		

• 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 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/3VA11163FE460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11163FE460AA0/all

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

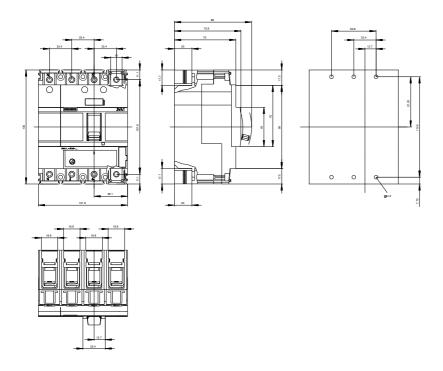
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11163FE460AA0

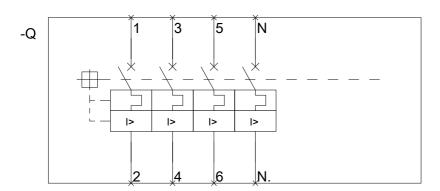
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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