SIEMENS

Data sheet

3VA1116-5GE46-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS M ICU=55KA @ 415 V 4-POLE, LINE PROTECTION TM220, ATFM, IN=160A OVERLOAD PROTECTION IR=112A ...160A 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 IP40 Protective function of the overcurrent release LI Switching capacity class of the circuit breaker M Dissipation Adive power loss • maximum W Solution/use current / Rated value / maximum A • of the current / Rated value / maximum A • of the current / Rated value / maximum A • of the current / Rated value current A • of the current / Rated value current A • of the current-dependent overload release / Initial value A • of the instantaneous short-circuit release / Initial value A • of the instantaneous short-circuit release / Initial value V Operating voltage • with AC / a 50/60 Hz / Rated value V • of L Rated value A 160 • at 80 °C / Rated value A 150 • at 80 °C / Rated value A 153 • at 80 °C / Rated value A 153 • at 80 °C / Rated value A 153 • at 80 °C / Rated value A 153	Protection class IP		IP40					
Switching capacity Switching capacity class of the circuit breaker M Dissipation Active power loss M Active power loss W 38 Electricity Continuous current / Rated value / maximum A 180 Continuous current / Rated value A 160 Adjustable response value current A 160 Adjustable response value current A 1 Full-scale value A 1 Operating voltage V 690 With AC / at 50/60 Hz / Rated value V 690 Operating voltage V 600 Operating voltage A 160 • at 40 °C / Rated value A 160 • at 50 °C / Rated value A 150 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 150 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 150 • at 60 °C / Rated value A 150 • at 60 °C / Rated value A 150 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 150 </td <td>Protection class IP / on the front</td> <td></td> <td>IP40</td>	Protection class IP / on the front		IP40					
Switching capacity class of the circuit breaker M Dissipation M Active power loss W anximum W Solution A Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 160 Adjustable response value current A 1 • of the current-dependent overload release / Full-scale value A 1 • of the instantaneous short-circuit release / initial value A 10 Main Circuit Coperating voltage V 690 • of the instantaneous short-circuit release / initial value N 100 Main Circuit Coperating voltage V 690 • of DC / Rated value V 690 • of DC / Rated value A 160 • at 40 °C / Rated value A 150 • at 50 °C / Rated value A 153 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 150 Auxiliary circuit Xullability for use system protection Adjustable response value current A 10 • of I-trip / Full-scale value A 100 • for N-conductor protection / initial value A </td <td>Protective function of the overcurrent release</td> <td></td> <td>LI</td>	Protective function of the overcurrent release		LI					
Switching capacity class of the circuit breaker M Dissipation M Active power loss W anximum W Solution A Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 160 Adjustable response value current A 1 • of the current-dependent overload release / Full-scale value A 1 • of the instantaneous short-circuit release / initial value A 10 Main Circuit Coperating voltage V 690 • of the instantaneous short-circuit release / initial value N 100 Main Circuit Coperating voltage V 690 • of DC / Rated value V 690 • of DC / Rated value A 160 • at 40 °C / Rated value A 150 • at 50 °C / Rated value A 153 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 150 Auxiliary circuit Xullability for use system protection Adjustable response value current A 10 • of I-trip / Full-scale value A 100 • for N-conductor protection / initial value A </td <td colspan="8"></td>								
Dissipation Active power loss w 38 - maximum W 38 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value / maximum A 160 Adjustable response value current A 10 - of the current-dependent overload release / initial value A 10 - of the current-dependent overload release / initial value V 690 - of the instantaneous short-circuit release / initial value V 690 - of the instantaneous short-circuit release / initial value V 600 Operating voltage - - - with AC / at 50/60 Hz / Rated value V 690 - for DC / Rated value A 160 - at 50 °C / Rated value A 160 - at 55 °C / Rated value A 155 - at 65 °C / Rated value A 150 - at 50 °C / Rated value A 150 - at 60 °C / Rated value A 150 - at 60 °C / Rated value A 150 - at 60 °C / Rated value A 150			M					
Active power loss W 38 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 160 Adjustable response value current • of the current-dependent overload release / Full-scale value A 1 • of the current-dependent overload release / Full-scale value A 1 10 Value • of the instantaneous short-circuit release / initial value A 10 Main circuit Operating voltage • of DC / Rated value V 690 • of DC / Rated value V 690 600 Operating current • at 40 °C / Rated value V 690 • at 50 °C / Rated value A 150 • at 60 °C / Rated value A 158 • at 65 °C / Rated value A 155 • at 65 °C / Rated value A 150 Auxiliary circuit A 150 Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use system protection Adjustable parameters A 10 • of I-trip / Full-scale value A 100 • for N-conductor protection / initial value A 100 • for N-conductor protection / initial value	Switching capacity class of the circuit breaker		IVI					
• maximum W 38 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 180 Adjustable response value current A 1 • of the current-dependent overload release / Full-scale value A 1 • of the instantaneous short-circuit release / initial value A 10 Main circuit A 10 Operating voltage V 690 • with AC / at 50/60 Hz / Rated value V 690 • for DC / Rated value V 690 • of DC / Rated value A 160 • at 40 °C / Rated value A 158 • at 60 °C / Rated value A 158 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 150 Auxilary circuit D D Number of CO contacts / for auxiliary contacts 0 Suitability for use system protection Adjustable response value current A 10 • of N-conductor protection / initial value A 100 • for N-conductor protection / initial val								
Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 160 Adjustable response value current A 160 • of the current-dependent overload release / Full-scale value A 1 • of the instantaneous short-circuit release / initial value A 10 Main circuit A 10 Operating voltage V 690 • with AC / at 50/60 Hz / Rated value V 690 • for DC / Rated value V 690 • for DC / Rated value A 160 • at 40 °C / Rated value A 155 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 150 Auxiliary circuit A 150 Number of CO contacts / for auxiliary contacts 0 Suitability System protection Adjustable response value current A 10 • of I-trip / Full-scale value A 100 <td< td=""><td>Active power loss</td><td></td><td></td></td<>	Active power loss							
Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 160 Adjustable response value current A 160 Adjustable response value current A 1 • of the instantaneous short-circuit release / initial value A 10 Main circuit A 10 Operating voltage V 690 • with AC / at 50/60 Hz / Rated value V 690 • for DC / Rated value V 600 Operating current A 160 • 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 153 • at 60 °C / Rated value A 150 Auxiliary circuit A 150 Auxiliary circuit A 10 Number of CO contacts / for auxiliary contacts 0 Suitability Suitability Suitability Suitability A 10 • of I-trip / Full-scale value A 100	• maximum	W	38					
Continuous current / Rated value A 160 Adjustable response value current A 1 • of the current-dependent overload release / Full-scale value A 1 • of the instantaneous short-circuit release / initial value A 10 Main circuit Operating voltage Image: Continuous current A 10 • of n DC / Rated value V 690 690 690 Operating current V 600 690 690 • of C / Rated value A 160 160 160 • at 50 °C / Rated value A 155 155 155 155 • at 60 °C / Rated value A 155 155 155 155 • at 60 °C / Rated value A 155 155 155 155 • at 60 °C / Rated value A 155 155 155 155 155 • at 65 °C / Rated value A 150 150 150 150 Auxillary circuit Xumber of CO contacts / for auxilliary contacts 0 0 155 Suitability Suitability Suita	Electricity							
Adjustable response value current of the current-dependent overload release / Full-scale value of the instantaneous short-circuit release / initial value A 1 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 153 at 65 °C / Rated value A 153 at 65 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts Number of CO contacts / for auxiliary contacts 0 Suitability for use system protection Adjustable response value current A 10 of I-trip / Full-scale value A 100 Adjustable response value current / of the current-dependent overload release / initial value 	Continuous current / Rated value / maximum	А	160					
• of the current-dependent overload release / A 1 Full-scale value • of the instantaneous short-circuit release / initial value A 10 • of the instantaneous short-circuit release / initial value A 10 • with AC / at 50/60 Hz / Rated value V 690 • with AC / at 50/60 Hz / Rated value V 690 • of DC / Rated value V 600 Operating current - - • at 40 °C / Rated value A 160 • at 40 °C / Rated value A 158 • at 60 °C / Rated value A 155 • at 65 °C / Rated value A 150 • at 65 °C / Rated value A 150 • at 65 °C / Rated value A 150 • at 65 °C / Rated value A 150 Auxiliary circuit D D Number of CO contacts / for auxiliary contacts 0 Suitability for use system protection Adjustable response value current A 10 • of I-trip / Full-scale value A 100 • for N-conductor protection / Full-scale value A	Continuous current / Rated value	А	160					
Full-scale value A 10 Main circuit V 690 Operating voltage V 690 • with AC / at 50/60 Hz / Rated value V 690 • for DC / Rated value V 600 Operating current A 160 • at 40 °C / Rated value A 160 • at 50 °C / Rated value A 150 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 150 • at 65 °C / Rated value A 150 • at 70 °C / Rated value A 150 Auxiliary circuit X 150 Auxiliary circuit X 150 Adjustable response value current 0 0 Suitability Suitability Suitability Suitability A 10 • of 1-trip / Full-scale value A 100 • for N-conductor protection / initial value A 100 • for N-conductor protection / Full-scale value A 100 Adjustable	Adjustable response value current							
value Main circuit Operating voltage vith AC / at 50/60 Hz / Rated value V 690 • for DC / Rated value V 600 Operating current vith AC / at 50 °C / Rated value A 160 • at 40 °C / Rated value A 160 • at 50 °C / Rated value A 150 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 153 • at 60 °C / Rated value A 150 Auxiliary circuit A 150 Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use system protection Adjustable response value current A 10 • of I-trip / Full-scale value A 100 • of n-conductor protection / initial value A 100 • of or N-conductor protection / Full-scale value A 100	•	A	1					
Operating voltage V 690 • with AC / at 50/60 Hz / Rated value V 690 • for DC / Rated value V 600 Operating current		А	10					
• with AC / at 50/60 Hz / Rated value V 690 • for DC / Rated value V 600 Operating current	Main circuit							
• for DC / Rated value V 600 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 158 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 153 • at 65 °C / Rated value A 153 • at 70 °C / Rated value A 150 Auxiliary circuit A 150 Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use system protection Adjustable parameters A 10 • of I-trip / Full-scale value A 10 • for N-conductor protection / initial value A 100 • for N-conductor protection / Full-scale value A 100 • Adjustable response value current / of the current- dependent overload release / initial value A 0.7	Operating voltage							
Operating current A 160 • 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 158 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 155 • at 65 °C / Rated value A 153 • at 70 °C / Rated value A 150 Auxiliary circuit A 150 Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use system protection Adjustable parameters A 10 • of I-trip / Full-scale value A 100 • for N-conductor protection / initial value A 100 • for N-conductor protection / Full-scale value A 0.7 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 A 160 • at 50 °C / Rated value A 160 • at 55 °C / Rated value A 158 • at 60 °C / Rated value A 155 • 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 parameters A 10 • of I-trip / Full-scale value A 100 • for N-conductor protection / initial value A 100 • for N-conductor protection / Full-scale value A 0.7	 for DC / Rated value 	V	600					
• at 50 °C / Rated value A 160 • at 55 °C / Rated value A 158 • at 60 °C / Rated value A 155 • at 60 °C / Rated value A 155 • at 65 °C / Rated value A 153 • 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 A 10 • for N-conductor protection / initial value A 100 Adjustable response value current / of the current- A 0.7	Operating current							
• 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 A 150 Number of CO contacts / for auxiliary contacts 0 Suitability Suitability Suitability for use system protection Adjustable parameters A • of I-trip / Full-scale value A • for N-conductor protection / initial value A • for N-conductor protection / Full-scale value A • Adjustable response value current / of the current- dependent overload release / initial value A	• at 40 °C / Rated value	А	160					
• 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 Adjustable parameters Adjustable response value current A 10 • of I-trip / Full-scale value A 100 • for N-conductor protection / initial value A 100 • Adjustable response value current / of the current- dependent overload release / initial value A 0.7	• at 50 °C / Rated value	А	160					
• at 65 °C / Rated value A 153 • at 70 °C / Rated value A 150 Auxiliary circuit A 150 Number of CO contacts / for auxiliary contacts 0 Suitability 0 Suitability system protection Adjustable parameters 4 Adjustable response value current 9 • of I-trip / Full-scale value 10 • for N-conductor protection / initial value 4 • for N-conductor protection / Full-scale value 0 Adjustable response value current 0 • for N-conductor protection / initial value 0 Adjustable response value current / of the current- 0 • for N-conductor protection / Full-scale value 0.7	• at 55 °C / Rated value	А	158					
• at 70 °C / Rated value A 150 Auxiliary circuit Number of CO contacts / for auxiliary contacts 0 Suitability 0 Suitability system protection Adjustable parameters system protection Adjustable response value current A 10 • of I-trip / Full-scale value A 100 • for N-conductor protection / initial value A 100 • for N-conductor protection / Full-scale value A 100 Adjustable response value current / of the current- A 0.7	● at 60 °C / Rated value	А	155					
Auxiliary circuit 0 Number of CO contacts / for auxiliary contacts 0 Suitability 0 Suitability system protection Adjustable parameters Adjustable response value current • of I-trip / Full-scale value A • for N-conductor protection / initial value A • for N-conductor protection / Full-scale value A • Adjustable response value current / of the current- A • for N-conductor protection / Full-scale value A • Adjustable response value current / of the current- A • for N-conductor protection / Full-scale value A • Adjustable response value current / of the current- A • O.7 O.7	● at 65 °C / Rated value	А	153					
Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use Suitability for use system protection Adjustable parameters Adjustable response value current • of I-trip / Full-scale value A • for N-conductor protection / initial value A • for N-conductor protection / Full-scale value A • for N-conductor protection / Initial value A	• at 70 °C / Rated value	А	150					
Number of CO contacts / for auxiliary contacts 0 Suitability Suitability for use Suitability for use system protection Adjustable parameters Adjustable response value current • of I-trip / Full-scale value A • for N-conductor protection / initial value A • for N-conductor protection / Full-scale value A • for N-conductor protection / Initial value A	Auxiliary circuit							
Suitability for use system protection Adjustable parameters Adjustable response value current • of I-trip / Full-scale value A 10 • for N-conductor protection / initial value A 100 • for N-conductor protection / Full-scale value A 100 • djustable response value current / of the current- A 0.7			0					
Suitability for use system protection Adjustable parameters Adjustable response value current • of I-trip / Full-scale value A 10 • for N-conductor protection / initial value A 100 • for N-conductor protection / Full-scale value A 100 • djustable response value current / of the current- A 0.7	Suitability							
Adjustable response value current A 10 • of I-trip / Full-scale value A 10 • for N-conductor protection / initial value A 100 • for N-conductor protection / Full-scale value A 100 Adjustable response value current / of the current- dependent overload release / initial value A 0.7			system protection					
Adjustable response value current A 10 • of I-trip / Full-scale value A 10 • for N-conductor protection / initial value A 100 • 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 parameters							
• 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								
• 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	А	10					
Adjustable response value current / of the current- A 0.7 dependent overload release / initial value A 0.7	 for N-conductor protection / initial value 	А	100					
dependent overload release / initial value	 for N-conductor protection / Full-scale value 	А	100					
	Adjustable response value current / of the current-	А	0.7					
	dependent overload release / initial value							
Product component								

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		<u>3VA1116-5GE46-0AA0</u>
Short circuit		
Operational short-circuit current breaking capacity (Ics)		
• at 240 V / Rated value	kA	85
• at 415 V / Rated value	kA	55
• at 440 V / Rated value	kA	30
• 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	85
• at 415 V / Rated value	kA	55
• at 440 V / Rated value	kA	30
• at 500 V / Rated value	kA	20
• at 690 V / Rated value	kA	10
Short-circuit current making capacity (Icm)		
• at 240 V / Rated value	kA	187
• at 415 V / Rated value	kA	121
• at 690 V / Rated value	kA	17
Connections		
Arrangement of electrical connectors / for main current circuit		Front terminal
Turne of comparishing and using succession	-	

Type of connectable conductor cross-section

• of the round co	onductor terminal / str	randed		1 x (1.5 - 70 mm²)	
Type of electrical co	nnection / for main cu	urrent circuit		Box terminal	
Mechanical Design					
Height			mm	130	
Width			mm	101.6	
Depth			mm	70	
Mounting type				fixed mounting	
Environmental conc	litions				
Ambient temperature	e				
 during operation 	on / minimum		°C	-25	
 during operation 	on / maximum		°C	70	
 during storage 	/ minimum		°C	-40	
 during storage 	/ maximum		°C	80	
Certificates					
Equipment marking					
 acc. to DIN EN 	l 61346-2			Q	
 acc. to DIN EN 	V 81346-2			Q	
General Product Approval	EMC	Declaration Conformity		pping Approval	other
EHC	other	EG-Konf.			other

Further information

Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/lowvoltage/catalogs

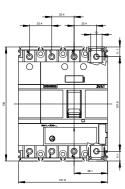
Industry Mall (Online ordering system) https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11165GE460AA0

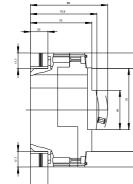
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11165GE460AA0/all

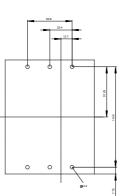
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11165GE460AA0

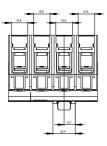
CAx-Online-Generator http://www.siemens.com/cax

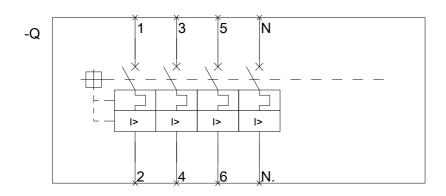
Tender specifications http://ausschreibungstexte.siemens.com/tiplv











last modified:

11.03.2015