Data sheet

3VA2110-7KQ46-0AA0



CIRCUIT BREAKER 3VA2 IEC FRAME 160 BREAKING CAPACITY CLASS C ICU=110KA @ 415 V 4POLE, LINE PROTECTION ETU860, LSIG, IN=100A OVERLOAD PROTECTION IR=40A ...100A SHORT CIRCUIT PROTECTION ISD=0,6..10X IN, II=1,5..12X IN NEUTRAL PROTECTION ADJUSTABLE (OFF, UPTO 160%) GROUNDFAULT, SWITCHABLE IG=0,2... 1 X IN, TG=0,050,8MS CABLE CONNECTION

Model	
product brand name	SENTRON
Product designation	Molded case circuit breaker
Design of the product	Line protection
Product variations	Selective Applications
Ground fault monitoring version	Summation current formation L + N conductor
Design of the auxiliary release	without auxiliaryrelease
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	ETU860

General technical data		
Number of poles		4
Trip class / of the L-trip / with I2t characteristic / initial value		0.5
Trip class / of the L-trip / with I2t characteristic / Full-scale value		25
Electrical endurance (switching cycles)		
• at AC-1 / at 380/415 V / at 50/60 Hz		12 000
Total disconnection time / for G-tripping / with standard characteristic / initial value	S	0.05
Total disconnection time / for G-tripping / with standard characteristic / Full-scale value	S	0.8
circuit-breaker / Design		3VA
Mechanical service life (switching cycles) / typical		20 000

Insulation voltage / Rated value V 800 Protection class Protection class IP IP40 Protection class IP IP40 Protective function of the overcurrent release I.SIG Switching capacity Switching capacity class of the circuit breaker C Dissipation Active power loss • maximum W 10 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value / maximum A 100 Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value A 100 Operating current • at 40 °C / Rated value A 100 • at 50 °C / Rated value A 100 • at 60 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts Adjustable response value current • for G-tripping / with 12t characteristic / initial value • for G-tripping / with standard characteristic / Full-scale value • for G-tripping / with standard characteristic / A 0.2	Voltage		
Protection class IP Protection class IP / on the front Protective function of the overcurrent release Switching capacity Switching capacity class of the circuit breaker C Dissipation Active power loss • maximum W 10 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value / maximum A 100 Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value • at 40 °C / Rated value • at 40 °C / Rated value • at 60 °C / Rated value • at 70 °C / Rated value •		V	800
Protection class IP Protection class IP / on the front Protective function of the overcurrent release Switching capacity Switching capacity class of the circuit breaker C Dissipation Active power loss • maximum W 10 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value / maximum A 100 Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value • at 40 °C / Rated value • at 40 °C / Rated value • at 60 °C / Rated value • at 70 °C / Rated value •	Protection class		
Protective function of the overcurrent release Switching capacity Switching capacity Switching capacity class of the circuit breaker C Dissipation Active power loss • maximum W 10 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value / A 100 Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value • at 40 °C / Rated value • at 60 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 67 °C / Rated value • at 70 °C / Rated val			IP40
Switching capacity class of the circuit breaker C Dissipation Active power loss • maximum W 10 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 100 Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value V 690 Operating current • at 40 °C / Rated value A 100 • at 60 °C / Rated value A 100 • at 65 °C / Rated value A 100 • at 65 °C / Rated value A 100 • at 67 °C / Rated value A 100 • at 70 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts Output Description of NO contacts / for auxiliary contacts Adjustable parameters Adjustable parameters Adjustable parameters Adjustable response value current • for G-tripping / with I2t characteristic / initial value • for G-tripping / with I2t characteristic / Full-scale value • for G-tripping / with I2t characteristic / Full-scale value • for G-tripping / with I2t characteristic / Full-scale value • for G-tripping / with I2t characteristic / Full-scale value			
Switching capacity class of the circuit breaker C Dissipation Active power loss • maximum W 10 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 100 Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 70			LSIG
Switching capacity class of the circuit breaker C Dissipation Active power loss • maximum W 10 Electricity Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 100 Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 70			
Dissipation Active power loss • maximum M			C
Active power loss	Switching capacity class of the circuit breaker		C
Percenticity Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 100 Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value • for G-tripping / with 12t characteristic / initial value • for G-tripping / with 12t characteristic / Full-scale value • for G-tripping / with 12t characteristic / Full-scale value			
Electricity Continuous current / Rated value / maximum	Active power loss		
Continuous current / Rated value / maximum	• maximum	W	10
Continuous current / Rated value Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / 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 60 °C / Rated value • at 60 °C / Rated value • at 70 °C / Rated value • for G - In auxiliary contacts Number of NO contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts O Suitability Suitability Suitable parameters Adjustable parameters Adjustable response value current • for G-tripping / with 12t characteristic / initial value • for G-tripping / with 12t characteristic / Full-scale value • for G-tripping / with 12t characteristic / Full-scale value	Electricity		
Adjustable response value current / of the instantaneous short-circuit release / initial value Main circuit		Α	160
instantaneous short-circuit release / initial value Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value V 690 Operating current • at 40 °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 / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts O Suitability Suitability for use Adjustable parameters Adjustable parameters Adjustable response value current • for G-tripping / with 12t characteristic / initial value • for G-tripping / with 12t characteristic / Full-scale value • for G-tripping / with 12t characteristic / Full-scale value	Continuous current / Rated value	А	100
Main circuit Operating voltage • with AC / at 50/60 Hz / Rated value Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value A 100 • at 70 °C / Rated value • at 70 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts O Suitability Suitability Suitability for use Adjustable parameters Adjustable response value current • for G-tripping / with 12t characteristic / initial value • for G-tripping / with 12t characteristic / Full-scale value • for G-tripping / with 12t characteristic / Full-scale value		Α	1.5
Operating voltage • with AC / at 50/60 Hz / Rated value Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value A 100 • at 70 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts O Suitability Suitability Suitability for use Adjustable parameters Adjustable response value current • for G-tripping / with 12t characteristic / initial value • for G-tripping / with 12t characteristic / Full-scale value • for G-tripping / with 12t characteristic / Full-scale value	instantaneous short-circuit release / initial value		
with AC / at 50/60 Hz / Rated value Operating current at 40 °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 670 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts O Suitability Suitability Suitability or use Adjustable parameters Adjustable response value current of or G-tripping / with 12t characteristic / initial value of or G-tripping / with 12t characteristic / Full-scale value A 1	Main circuit		
Operating current • at 40 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value • at 65 °C / Rated value • at 65 °C / Rated value • at 70 °C / Rated value • at 70 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts O Suitability Suitability Suitabile parameters Adjustable parameters Adjustable response value current • for G-tripping / with l2t characteristic / initial value • for G-tripping / with l2t characteristic / Full-scale value	Operating voltage		
at 40 °C / Rated value at 50 °C / Rated value at 60 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts Suitability Suitability Suitable parameters Adjustable parameters Adjustable response value current for G-tripping / with 12t characteristic / initial value for G-tripping / with 12t characteristic / Full-scale value for G-tripping / with 12t characteristic / Full-scale value at 100 A 100 A 100 A 100 A 100 A 100 Auxiliary circuit O 0 Suitability Suitability Suitability A 0.2 Value for G-tripping / with 12t characteristic / Full-scale value	• with AC / at 50/60 Hz / Rated value	V	690
at 50 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value at 70 °C / Rated value At 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts Suitability Suitability for use Adjustable parameters Adjustable response value current of or G-tripping / with 12t characteristic / initial value of or G-tripping / with 12t characteristic / Full-scale value A 100 Auxiliary circuit O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Operating current		
at 60 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts O Suitability Suitability Suitability for use Adjustable parameters Adjustable response value current of or G-tripping / with 12t characteristic / initial value for G-tripping / with 12t characteristic / Full-scale value of or G-tripping / with 12t characteristic / Full-scale value 100 A 100 A 100 A 100 O D D D D D D D D D D D D	● at 40 °C / Rated value	Α	100
at 65 °C / Rated value at 70 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts 0 Suitability Suitability Suitabile parameters Adjustable parameters Adjustable response value current a for G-tripping / with 12t characteristic / initial value for G-tripping / with 12t characteristic / Full-scale value a 100 A 100 A 100 D 2 Suitability Suitability Suitability for use System protection	● at 50 °C / Rated value	Α	100
at 70 °C / Rated value A 100 Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts 0 Suitability Suitability for use Adjustable parameters Adjustable response value current • for G-tripping / with I2t characteristic / initial value • for G-tripping / with I2t characteristic / Full-scale value • for G-tripping / with I2t characteristic / Full-scale value • for G-tripping / with I2t characteristic / Full-scale value	• at 60 °C / Rated value	Α	100
Auxiliary circuit Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts Suitability Suitability for use Adjustable parameters Adjustable response value current • for G-tripping / with I2t characteristic / initial value • for G-tripping / with I2t characteristic / Full-scale value • for G-tripping / with I2t characteristic / Full-scale value	• at 65 °C / Rated value	Α	100
Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts Suitability Suitability for use Adjustable parameters Adjustable response value current • for G-tripping / with I2t characteristic / initial value • for G-tripping / with I2t characteristic / Full-scale value • for G-tripping / with I2t characteristic / Full-scale value	• at 70 °C / Rated value	Α	100
Number of NC contacts / for auxiliary contacts Number of NO contacts / for auxiliary contacts Suitability Suitability for use Adjustable parameters Adjustable response value current • for G-tripping / with I2t characteristic / initial value • for G-tripping / with I2t characteristic / Full-scale value • for G-tripping / with I2t characteristic / Full-scale value	Auxiliary circuit		
Suitability for use system protection Adjustable parameters Adjustable response value current • for G-tripping / with I2t characteristic / initial A value • for G-tripping / with I2t characteristic / Full-scale A 1			0
Suitability for use Adjustable parameters Adjustable response value current • for G-tripping / with I2t characteristic / initial value • for G-tripping / with I2t characteristic / Full-scale A 1	Number of NO contacts / for auxiliary contacts		0
Suitability for use Adjustable parameters Adjustable response value current • for G-tripping / with I2t characteristic / initial value • for G-tripping / with I2t characteristic / Full-scale A 1	Cuitability		
Adjustable parameters Adjustable response value current • for G-tripping / with I2t characteristic / initial A 0.2 value • for G-tripping / with I2t characteristic / Full-scale A 1 value			system protection
Adjustable response value current • for G-tripping / with I2t characteristic / initial A 0.2 value • for G-tripping / with I2t characteristic / Full-scale A 1 value	·		
 for G-tripping / with I2t characteristic / initial A value for G-tripping / with I2t characteristic / Full-scale value 			
value ● for G-tripping / with I2t characteristic / Full-scale A 1 value		۸	0.2
value		A	U.Z
• for G-tripping / with standard characteristic / A 0.2		Α	1
initial value	 for G-tripping / with standard characteristic / initial value 	А	0.2
• for G-tripping / with standard characteristic / A 1 Full-scale value	• for G-tripping / with standard characteristic /	А	1

• of I-trip / Full-scale value	Α	12
 of the short-time delayed short-circuit release / initial value 	Α	0.6
 of the short-time delayed short-circuit release / Full-scale value 	Α	10
 of S-trip / with standard characteristic / initial value 	Α	0.6
 of S-trip / with standard characteristic / Full- scale value 	Α	10
Adjustable delay time		
 for G-tripping / with I2t characteristic / initial value 	S	0.05
 for G-tripping / with I2t characteristic / Full-scale value 	S	0.8
• of S-trip / with I2t characteristic / initial value	s	0.05
 of S-trip / with I2t characteristic / Full-scale value 	S	0.5
 of S-trip / with standard characteristic / initial value 	S	0.05
• of S-trip / with standard characteristic / Full-scale value	S	0.5
Adjustable response value current / of the current- dependent overload release / initial value	A	0.4
Product details		
Product component		
Trip indicator		No
• display		Yes
undervoltage release		No
Product property		
 of the circuit breaker with tripping unit / Tripping characteristic adjustable 		Yes
 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		Yes

Accessories

• Phase failure detection

• other measurement function

No Yes

Manufacturer article number / of the supplied basic switch		3VA2110-7KQ46-0AA0
Short circuit		
Operational short-circuit current breaking capacity		
(Ics)		
• at 240 V / Rated value	kA	150
• at 415 V / Rated value	kA	110
• at 440 V / Rated value	kA	110
• at 500 V / Rated value	kA	85
● at 690 V / Rated value	kA	2.5
Maximum short-circuit current breaking capacity (Icu)		
● at 240 V / Rated value	kA	150
● at 415 V / Rated value	kA	110
● at 440 V / Rated value	kA	110
• at 500 V / Rated value	kA	85
• at 690 V / Rated value	kA	2.5
Short-circuit current making capacity (lcm)		
• at 240 V / Rated value	kA	330
• at 415 V / Rated value	kA	242
• at 440 V / Rated value	kA	242
• at 500 V / Rated value	kA	187
• at 690 V / Rated value	kA	3.75
Connections		
Arrangement of electrical connectors / for main current circuit		Front terminal
Type of connectable conductor cross-section	_	
of the round conductor terminal / stranded		1 x (6-120 mm²)
Type of electrical connection / for main current circuit		Box terminal
Mechanical Design		
Height	mm	181
Width	mm	140
Depth	mm	107
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

• acc. to DIN EN 81346-2 **General Product Approval**

Q Q

EMC

Declaration of Conformity

Shipping Approval







other





Shipping	other
Approval	



other

GL

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/3VA21107KQ460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA21107KQ460AA0/all

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

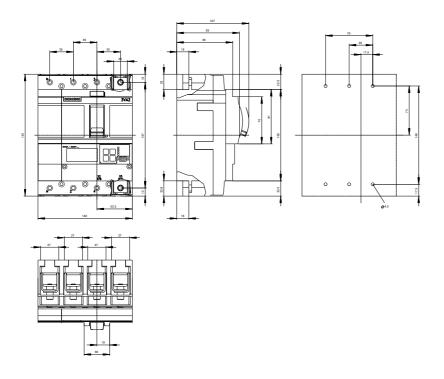
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA21107KQ460AA0

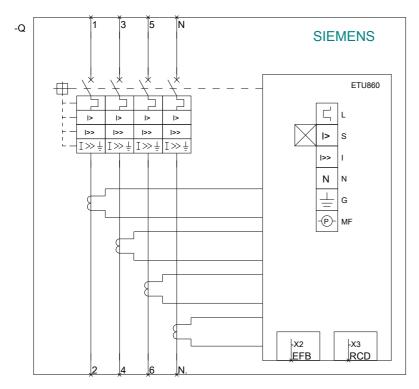
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





last modified: 11.03.2015