# **SIEMENS**

### Data sheet

### 3VA1116-3GE46-0AA0



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 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  Switching capacity Switching capacity class of the circuit breaker  N  Dissipation  Active power loss  • maximum  W 38  Electricity Continuous current / Rated value / maximum Active power loss  • maximum A 160  Continuous current / Rated value A 160  Adjustable response value current  • of the current-dependent overload release / Full-scale value • of the instantaneous short-circuit release / initial value  Operating voltage  • with AC / at 50/60 Hz / Rated value • for DC / 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 / Rate	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 • for DC / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 50 °C / Rated value • at 55 °C / Rated value • at 55 °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  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 50/80 Hz / Rated value • for DC / Rated value • for DC / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value	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  • of the current-dependent overload release / Full-scale value • of the instantaneous short-circuit release / initial value  Main circuit  Operating voltage • with AC / at 50/80 Hz / Rated value • for DC / Rated value • for DC / Rated value • at 40 °C / Rated value • at 50 °C / Rated value • at 60 °C / Rated value	Switching capacity		
Active power loss  • maximum    Maximum   Maxi			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  • 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	Active power loss		
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 circuit release / initial value  of the circuit release / initial value  of the current of the current of the current dependent overload release / initial value  A 160  10  10  10  10  10  10  10  10  10	• 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 40 °C / Rated value  at 55 °C / Rated value  at 60 °C / Rated value  at 70 °C / Rated value  Adjustable parameters  Adjustable parameters  Adjustable response value current  of 1-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	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 160  oat 50 °C / Rated value  A 160  oat 55 °C / Rated value  A 158  oat 60 °C / Rated value  A 155  oat 65 °C / Rated value  A 153  oat 65 °C / Rated value  A 150  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitabile response value current  of r N-conductor protection / Full-scale value  A 100  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  V 690  Operating current  at 40 °C / Rated value  value  A 160  at 55 °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 155  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  Suitabile response value current  of I-trip / Full-scale value  for N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-dependent overload release / initial value  A 0.7	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  • of at 40 °C / Rated value  • at 40 °C / Rated value  • at 55 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 67 °C / Rated value  • at 70 °C / Rated va	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         10           ● for N-conductor protection / Full-scale value         A         100           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 100  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 160 • at 50 °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  O  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 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 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 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     A 100  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 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  • for N-conductor protection / Full-scale value  A 100  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  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  At 153  at 70 °C / Rated value  At 150   Auxiliary circuit  Number of CO contacts / for auxiliary contacts   Suitability  Suitability for use  system protection  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  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 65 °C / Rated value  At 153  at 70 °C / Rated value  At 150   Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitability or 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 At 155 at 60 °C / Rated value At 155 at 65 °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 or 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  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  Adjustable response value current / of the current-dependent overload release / Initial value  A 100  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  O  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-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  • for N-conductor protection / Full-scale value  Adjustable response value current / of the current  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  System protection  A 10  100  A 100  A 100  Adjustable response value current / of the current-dependent overload release / initial value	• 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  System protection  A 10  100  A 100  A 100  Adjustable response value current / of the current-dependent overload release / initial value	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 100  of Intrip / Full-scale value  A 100  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 100  of Intrip / Full-scale value  A 100  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 100  for N-conductor protection / Full-scale value  A 100  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 100  Adjustable response value current / of the current-dependent overload release / initial value  A 100  A 100  A 100  A 100  A 100  A 100	Adjustable parameters		
<ul> <li>for N-conductor protection / initial value</li> <li>for N-conductor protection / Full-scale value</li> <li>Adjustable response value current / of the current-dependent overload release / initial value</li> </ul> A 100 A 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 100  A 0.7	• of I-trip / Full-scale value	Α	10
Adjustable response value current / of the current- dependent overload release / initial value  A 0.7	• for N-conductor protection / initial value	Α	100
dependent overload release / initial value	• for N-conductor protection / Full-scale value	Α	100
	•	Α	0.7
Product details	Product details		
Product component			

		Ne
Trip indicator		No
• display		No
Voltage trigger		No
undervoltage release		No
<ul> <li>undervoltage release with leading contact</li> </ul>		No
Product property		
<ul> <li>for neutral conductors / upgradeable/retrofittable / Short-circuit and overload proof</li> </ul>		No
Product expansion / optional / motor drive		Yes
Product function		
Product function		
<ul> <li>Intrinsic device protection</li> </ul>		Yes
• communication function		No
Phase failure detection		No
<ul> <li>other measurement function</li> </ul>		No
Accessories		
Manufacturer article number / of the supplied basic		3VA1116-3GE46-0AA0
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 (Icm)		
• 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  Type of connectable conductor cross-section		Front terminal

<ul> <li>of the round conductor terminal / stranded</li> </ul>		1 x (1.5 - 70 mm²)
Type of electrical connection / for main current circuit		Box terminal
Machanical Design		
Mechanical Design		
Height	mm	130
Width	mm	101.6
Depth	mm	70
Mounting type		fixed mounting
Environmental conditions		
Ambient temperature		
<ul><li>during operation / minimum</li></ul>	°C	-25
<ul><li>during operation / maximum</li></ul>	°C	70
during storage / minimum	°C	-40
<ul> <li>during storage / maximum</li> </ul>	°C	80
Certificates		
Equipment marking		
• acc. to DIN EN 61346-2		Q
• acc. to DIN EN 81346-2		Q

**Shipping Approval** 

GL

## Further information

General

**Product** 

**Approval** 

Information- and Downloadcenter (Catalogs, Brochures,...)

other

**EMC** 

http://www.siemens.com/lowvoltage/catalogs

Industry Mall (Online ordering system)
https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11163GE460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11163GE460AA0/all

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

**Declaration of** 

Conformity

EG-Konf.

http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11163GE460AA0

**CAx-Online-Generator** 

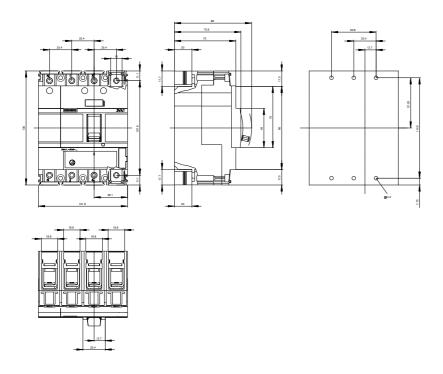
http://www.siemens.com/cax

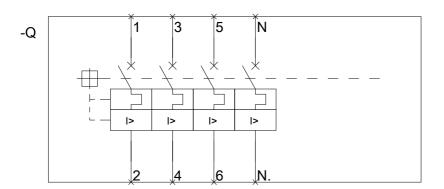
**Tender specifications** 

http://ausschreibungstexte.siemens.com/tiplv

other

other





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