# **SIEMENS**

# Data sheet

# 3VA1116-3GD42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS N ICU=25KA @ 415 V 4-POLE, LINE PROTECTION TM210, FTFM, IN=160A OVERLOAD PROTECTION IR=160A FIXED SHORT CIRCUIT PROTECTION II=10 X IN NEUTRAL PROTECTION 100% BUSBAR 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	TM210	

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 class of the circuit breaker  N  Dissipation  Active power loss • maximum  W  38  Electricity  Continuous current / Rated value / maximum  of the current-dependent overload release / Foll-scale value • of the current-dependent overload release / Foll-scale value • of the instantaneous short-circuit release / initial value  Main circuit  Operating voltage • with Act / at 50/60 Hz / Rated value • for DC / Rated value • at 40° C / Rated value • at 40° C / Rated value • at 50° C / Rated value • at 60° C / Rated value • at 6	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 N  Dissipation  Active power loss  • maximum 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  • 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 instantaneous short-circuit release / initial value  • of the Cr Rated value  • of the instantaneous short-circuit release / initial value  • of the current-dependent overload release / initial value  Product details	Protective function of the overcurrent release		Ц
Switching capacity class of the circuit breaker N  Dissipation  Active power loss  • maximum 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  • 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 instantaneous short-circuit release / initial value  • of the Cr Rated value  • of the instantaneous short-circuit release / initial value  • of the current-dependent overload release / initial value  Product details	Switching capacity		
Active power loss  • maximum    Maximum			N
Active power loss  • maximum    Maximum	Dissipation		
Electricity  Continuous current / Rated value / maximum  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  of the instantaneous short-circuit release / initial value  Main circuit  Operating voltage  with AC / at 50/60 Hz / Rated value  of to DC / Rated value  of DC / Rated value  of C / Rated value  at 50 °C / Rated value  at 60 °C / Rated value  at 70 °C / R	·		
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  Main circuit  Operating voltage with AC / at 50/60 Hz / Rated value of or DC / Rated value volue Volue Operating current of the value of C/ Rated value of	• 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 current open definitial value  A 10  of the current open definitial value  A 160  of the current open definitial value  A 158  of 160  of the current open definitial value  A 153  Adjustable response value current of the current-dependent overload release / initial value  Product details	Electricity		
Adjustable response value current  of the current-dependent overload release / Full-scale value  of the instantaneous short-circuit release / initial value  of the current	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     volth AC / Rated value     v 600  Operating current     at 40 °C / Rated value     at 55 °C / Rated value     at 65 °C / Rated value     at 67 °C / Rated value     at 67 °C / Rated value     at 68 °C / Rated value     at 68 °C / Rated value     at 67 °C / Rated value     at 67 °C / Rated value     at 68 °C / Rated value     at 68 °C / Rated value     at 68 °C / Rated value     at 69 °C / Rated value     at 60 °C / Rated va	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  • of or DC / Rated value  • at 40 °C / Rated value  • at 50 °C / Rated value  • at 55 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 70 °C / Rated val	Adjustable response value current		
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 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  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  Product details		Α	1
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  A 160  • at 50 °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  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  A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details		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 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 70 °C / Rated value     at 70 °C / Rated value     at 70 °C / Rated value     A 155  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  Adjustable response value current / of the current-dependent overload release / initial value  Product details	Main circuit		
for DC / Rated value	Operating voltage		
Operating current  • at 40 °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 70 °C / Rated value A 150  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  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  Product details	• with AC / at 50/60 Hz / Rated value	V	690
at 40 °C / Rated value at 50 °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 150  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  Suitability for use  Adjustable parameters  Adjustable response value current of ror N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value  Product details	• for DC / Rated value	V	600
at 50 °C / Rated value  at 55 °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 150  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  Suitability or use  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  Product details	Operating current		
at 55 °C / Rated value at 60 °C / Rated value At 155 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 for N-conductor protection / Full-scale value  Adjustable response value current / of the current-dependent overload release / initial value  Product details	• at 40 °C / Rated value	Α	160
at 60 °C / Rated value  at 65 °C / Rated value  at 70 °C / Rated value  A 153  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-dependent overload release / initial value  Product details	• 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  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  Product details	• 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-dependent overload release / initial value  Product details	• 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  Product details	• 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  A 100  of or N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	• 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  A 100  of or N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	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  for N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details			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  Adjustable response value current / of the current-dependent overload release / initial value  Product details	Suitability		
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  Product details	· · · · · · · · · · · · · · · · · · ·		system protection
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     A 100  Adjustable response value current / of the current-dependent overload release / initial value  Product details	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  Product details	Adjustable response value current		
◆ for N-conductor protection / Full-scale value     Adjustable response value current / of the current-dependent overload release / initial value  Product details  A 100  A 1  Product details	• of I-trip / Full-scale value	Α	10
Adjustable response value current / of the current- dependent overload release / initial value  Product details	• for N-conductor protection / initial value	А	100
Product details	• for N-conductor protection / Full-scale value	Α	100
	•	Α	1
	Product details		
i iouuoi oomponeni	Product component		

		NI-
Trip indicator		No
<ul><li>display</li></ul>		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		3VA1116-3GD42-0AA0
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 (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  Type of connectable conductor cross-section		Front terminal

• 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					
<ul><li>during operation / minimum</li></ul>	°C	-25			
<ul><li>during operation / maximum</li></ul>	°C	70			
<ul><li>during storage / minimum</li></ul>	°C	-40			
<ul><li>during storage / maximum</li></ul>	°C	80			

C	er	titi	ıca	tes	

## **Equipment marking**

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

General Product Approval	EMC	Declaration of	Shipping Approval
		Conformity	





other







 $\mathsf{GL}$ 

### 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/3VA11163GD420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11163GD420AA0/all

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

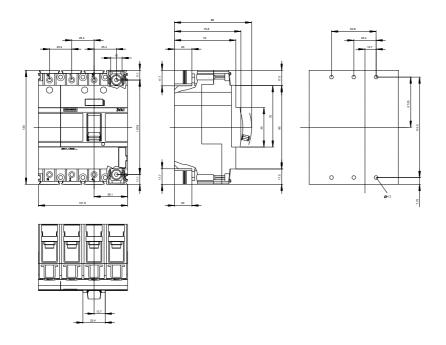
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11163GD420AA0

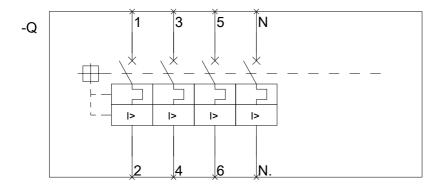
**CAx-Online-Generator** 

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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