# **SIEMENS**

## Data sheet

## 3VA1196-5EE42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS M ICU=55KA @ 415 V 4-POLE, LINE PROTECTION TM220, ATFM, IN=16A OVERLOAD PROTECTION IR=11,2A ...16A SHORT CIRCUIT PROTECTION II=10 X IN NEUTRAL UNPROTECTED BUSBAR CONNECTION

Figure similar

Model 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

Protective function of the overcurrent release  LI  Switching capacity Switching capacity Switching capacity class of the circuit breaker  M  Dissipation  Active power loss  • maximum  W  10.6  Electricity  Continuous current / Rated value / maximum  • of the current-dependent overload release / • 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-dependent overload release / • of the instantaneous short-circuit release / initial value  • of the current-dependent overload release / • of the instantaneous short-circuit release / initial value  • of the current-dependent overload release / • of the instantaneous short-circuit release / initial value  • of the current-dependent overload release / • of the instantaneous short-circuit release / initial value  • of the current-dependent overload release / • of the instantaneous short-circuit release / initial value  • of C / Rated value  • of C / Rated value  • at 40 °C / Rated value  • at 50 °C / Rated value  • at 60 °C / Rated value  • at 70 °C / Rate	Protection class IP		IP40
Switching capacity (alass of the circuit breaker M  Dissipation  Active power loss  • maximum W 10.6  Electricity  Continuous current / Rated value / maximum A 160  Continuous current / Rated value A 16  Adjustable response value current  • of the current-dependent overload release / A 1  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 600  Operating current  • at 40 °C / Rated value A 16  • at 55 °C / Rated value A 16  • at 55 °C / Rated value A 16  • at 65 °C / Rated value A 15  • at 65 °C / Rated value A 15  • at 65 °C / Rated value A 15  • at 65 °C / Rated value A 15  • at 65 °C / Rated value A 15  • at 65 °C / Rated value A 15  • at 65 °C / Rated value A 15  • at 65 °C / Rated value A 15  • at 65 °C / Rated value A 15  • at 70 °C / Rated value A 15  Auxiliary circuit  Number of CO contacts / for auxiliary contacts 0  Suitability  Suitability for use system protection  Adjustable parameters  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker    Dissipation	Protective function of the overcurrent release	_	LI
Switching capacity class of the circuit breaker    Dissipation	Switching capacity		
Active power loss  • maximum    Maximum   Warman   Warman			M
■ maximum     ■ M	Dissipation		
Continuous current / Rated value / maximum	Active power loss		
Continuous current / Rated value / maximum	• maximum	W	10.6
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  of or DC / Rated value  of the 2 / Rated value  of 2 / Rated value  A 16  at 40 °C / Rated value  A 16  at 55 °C / Rated value  A 16  at 65 °C / Rated value  A 15  at 60 °C / Rated value  A 15  at 60 °C / Rated value  A 15  at 67 °C / Rated value  A 15  at 67 °C / Rated value  b at 67 °C / Rated value  b at 67 °C / Rated value  A 15  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitability For use  Adjustable parameters  Adjustable parameters  Adjustable response value current  of l-trip / Full-scale value  A 10	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  • for DC / Rated value  Operating current  • at 40 °C / Rated value  • at 50 °C / Rated value  A 16  • at 50 °C / Rated value  A 16  • at 50 °C / Rated value  A 16  • at 60 °C / Rated value  A 15  • at 60 °C / Rated value  A 15  • at 60 °C / Rated value  A 15  • at 60 °C / Rated value  A 15  • at 70 °C / Rated value  A 15  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  A 10	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     of or DC / Rated value  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 65 °C / Rated value     at 70 °C / Rated value     at 70 °C / Rated value     A 15  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  A 10	Continuous current / Rated value	Α	16
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 16  • at 50 °C / Rated value  A 16  • at 50 °C / Rated value  A 16  • at 60 °C / Rated value  A 15  • at 60 °C / Rated value  A 15  • at 70 °C / Rated value  A 15  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  A 10	Adjustable response value current		
Value   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 16   • at 50 °C / Rated value A 16   • at 55 °C / Rated value A 16   • at 60 °C / Rated value A 15   • at 65 °C / Rated value A 15   • at 70 °C / Rated value A 15    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 A 10		Α	1
Operating voltage  • 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  A 15  • at 65 °C / Rated value  A 15  • at 70 °C / Rated value  A 15  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  A 10		Α	10
with AC / at 50/60 Hz / Rated value     v 690     for DC / Rated value     V 600  Operating current     at 40 °C / Rated value     at 50 °C / Rated value     at 55 °C / Rated value     at 65 °C / Rated value     at 60 °C / Rated value     at 66 °C / Rated value     at 65 °C / Rated value     at 70 °C / Rated value     A 15     at 70 °C / Rated value     A 15  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     A 10	Main circuit		
for DC / Rated value         V 600  Operating current	Operating voltage		
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 70 °C / Rated value  A 15  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability for use  Adjustable parameters  Adjustable response value current  • of l-trip / Full-scale value  A 10	• with AC / at 50/60 Hz / Rated value	٧	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 70 °C / Rated value  At 15  Auxiliary circuit  Number of CO contacts / for auxiliary contacts   Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  At 16  At 16  At 16  At 15  At 15  At 15  At 15  At 15  At 15  At 10	• 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  A 15  at 65 °C / Rated value  A 15  at 70 °C / Rated value  A 15  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  A 10	Operating current		
at 55 °C / Rated value  at 60 °C / Rated value  at 65 °C / Rated value  at 70 °C / Rated value  A 15  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  A 16  A 15  A 10	• at 40 °C / Rated value	Α	16
<ul> <li>at 60 °C / Rated value</li> <li>at 65 °C / Rated value</li> <li>at 70 °C / Rated value</li> <li>A 15</li> </ul> Auxiliary circuit Number of CO contacts / for auxiliary contacts <ul> <li>Suitability</li> <li>Suitability for use</li> <li>system protection</li> </ul> Adjustable parameters Adjustable response value current <ul> <li>of I-trip / Full-scale value</li> <li>A 10</li> </ul>	• at 50 °C / Rated value	Α	16
at 65 °C / Rated value  at 70 °C / Rated value  A 15  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  A 15  A 10	• at 55 °C / Rated value	Α	16
at 70 °C / Rated value  A 15  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  A 10	• at 60 °C / Rated value	Α	15
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  A 10	● at 65 °C / Rated value	Α	15
Number of CO contacts / for auxiliary contacts  Suitability Suitability for use  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  A 10	• at 70 °C / Rated value	Α	15
Number of CO contacts / for auxiliary contacts  Suitability Suitability for use  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  A 10	Auxiliary circuit		
Suitability for use system protection  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  A 10			0
Suitability for use system protection  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  A 10	Cuitability		
Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  A 10			system protection
Adjustable response value current  ● of I-trip / Full-scale value  A 10	•		
• of I-trip / Full-scale value A 10			
	·	Δ	10
▼ for in-conductor protection / initial value			
6 for NI conductor protection / Full code water	•		
• for N-conductor protection / Full-scale value  A 0	<u> </u>		
Adjustable response value current / of the current- A 0.7  dependent overload release / initial value	•	A	0.1
Product details	Product details		
Product component	Product component		

		NI-
• Trip indicator		No
• display		No
<ul> <li>Voltage trigger</li> </ul>		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		
Intrinsic device protection		Yes
• communication function		No
Phase failure detection		No
<ul> <li>other measurement function</li> </ul>		No
Accessories		
Manufacturer article number / of the supplied basic		3VA1196-5EE42-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(lcs)		
● 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 (lcm)		
• 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		Front terminal
current circuit		
Type of connectable conductor cross-section		

• 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	

Equipment models
Equipment marking

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

General Product Approval	EMC	Declaration of	Shipping Approval
		Conformity	











 $\mathsf{GL}$ 

### other

other

## Further information

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

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

Industry Mall (Online ordering system)

 $\underline{\text{https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11965EE420AA0}}$ 

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11965EE420AA0/all

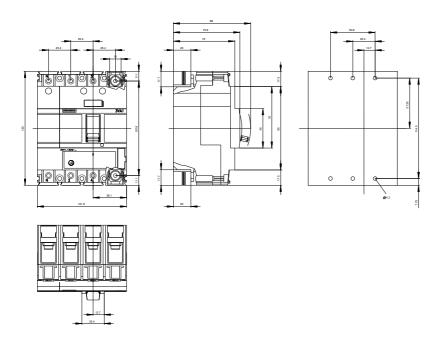
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11965EE420AA0

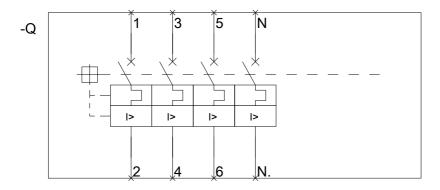
**CAx-Online-Generator** 

http://www.siemens.com/cax

Tender specifications

http://ausschreibungstexte.siemens.com/tiplv





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