# **SIEMENS**

### Data sheet

### 3VA1110-3FD42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS N ICU=25KA @ 415 V 4-POLE, LINE PROTECTION TM210, FTFM, IN=100A OVERLOAD PROTECTION IR=100A FIXED SHORT CIRCUIT PROTECTION II=10 X IN NEUTRAL PROTECTION 50% BUSBAR CONNECTION

Figure similar

Model			
product brand name	5	SENTRON	
Product designation	N	Molded case circuit breaker	
Design of the product	L	Line protection	
Product variations	C	General Applications	
Ground fault monitoring version	V	Vithout	
Design of the auxiliary release	V	Nithout auxiliary release	
Design of the auxiliary switch	V	Vithout	
Design of the operating mechanism	to	oggle handle	
Type of the driving mechanism / motor drive	N	No	
Design of the overcurrent release	Т	ΓM210	

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 Switching capacity class of the circuit breaker  N  Dissipation  Active power loss  • maximum  W  25  Electricity Continuous current / Rated value / maximum A	Protection class IP		IP40	
Switching capacity Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  W 25  Electricity  Continuous current / Rated value / maximum  • of the current-dependent overload release / A 100  Adjustable response value current  • of the current-dependent overload release / Full-scale value  • of the instantaneous short-circuit release / initial A 10  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 50 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 67 °C / Rated value  • at 70 °C / Rated val	Protection class IP / on the front		IP40	
Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  W 25  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  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 55 °C / Rated value  • at 60 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 60 °C / Rated value  • at 65 °C / Rated value  • at 60 °C / Rated value  • at 70 °	Protective function of the overcurrent release		Ц	
Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  W 25  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  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 55 °C / Rated value  • at 60 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 60 °C / Rated value  • at 65 °C / Rated value  • at 60 °C / Rated value  • at 70 °	Switching capacity			
Active power loss			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  • 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  A 100  690  690  690  690  690  690  690				
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 current-dependent overload release / initial value  of the current-dependent overload release / initial value  of the current-dependent overload release / initial value  A 10  690 690 690 690 690 690 690 690 690 6	• maximum	W	25	
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 r DC / Rated value  V 690  Operating current  of at 40 °C / Rated value  A 100  of 20 / Rated value  at 50 °C / Rated value  of 60 °C / Rated value  at 60 °C / Rated value  at 60 °C / Rated value  at 70 °C / Rated value  of at 60 °C / Rated value  of Cord value  at 70 °C / Rated value  of Cord va	Electricity			
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-ci	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 DC / Rated value     vertice of Port	Continuous current / Rated value	Α	100	
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  V 690  Operating current  • at 40 °C / Rated value  A 100  • at 55 °C / Rated value  A 98  • at 60 °C / Rated value  A 96  • at 65 °C / Rated value  A 96  • at 70 °C / Rated value  A 91  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 / Full-scale value  Adjustable response value current / of the current-dependent overload release / initial value  A 10  Auxiliary circuit  A 10	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 50 °C / Rated value  • at 50 °C / Rated value  • at 50 °C / Rated value  • at 60 °C / Rated value  A 96  • at 65 °C / Rated value  A 94  • at 70 °C / Rated value  A 91  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 / Full-scale value  • for N-conductor protection / Full-scale value  • A 0.5  Adjustable response value current / of the current-dependent overload release / initial value		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 100  • at 50 °C / Rated value  A 98  • at 60 °C / Rated value  A 98  • at 60 °C / Rated value  A 96  • at 65 °C / Rated value  A 94  • at 70 °C / Rated value  A 91  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 10  Adjustable response value current / of the current-dependent overload release / initial value  A 1		Α	10	
• with AC / at 50/60 Hz / Rated value • for DC / Rated value V 600  Operating current • at 40 °C / Rated value A 100 • at 50 °C / Rated value A 100 • at 55 °C / Rated value A 98 • at 60 °C / Rated value A 96 • at 65 °C / Rated value A 97 • at 70 °C / Rated value A 99 • at 70 °C / Rated value A 91  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitabile parameters  Adjustable parameters  Adjustable presponse 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	Main circuit			
for DC / 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 60 °C / Rated value     at 70 °C / Rated value  A 91  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     for N-conductor protection / Full-scale value     Adjustable response value current / of the current-dependent overload release / initial value  A 1  Adjustable response value current / of the current-dependent overload release / initial value	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 94  • at 70 °C / Rated value  A 91  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 0.5  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 A 100  at 55 °C / Rated value A 98  at 60 °C / Rated value A 96  at 65 °C / Rated value A 99  at 70 °C / Rated value A 91  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  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 1  Adjustable response value current / of the current-dependent overload release / initial value  A 1  A 1  A 1	• 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 70 °C / Rated value  A 91  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  Adjustable response value current / of the current-dependent overload release / initial value  A 10  Adjustable response value current / of the current-dependent overload release / initial value	Operating current			
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 91  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  0  Suitability Suitability for use  Adjustable 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 N-conductor protection / Full-scale value Adjustable response value current / of the current-dependent overload release / initial value	• at 40 °C / Rated value	Α	100	
at 60 °C / Rated value at 65 °C / Rated value at 70 °C / Rated value  A 94  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 10  Adjustable response value current / of the current-dependent overload release / Initial value	• at 50 °C / Rated value	Α	100	
at 65 °C / Rated value  at 70 °C / Rated value  A 91  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  A 10  Adjustable response value current / of the current-dependent overload release / initial value	• at 55 °C / Rated value	Α	98	
at 70 °C / Rated value  A 91  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  • for N-conductor protection / initial value  • for N-conductor protection / Full-scale value  A 0.5  Adjustable response value current / of the current-dependent overload release / initial value  A 1	• at 60 °C / Rated value	Α	96	
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	94	
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  0.5  A 0.5  Adjustable response value current / of the current-dependent overload release / initial value	• at 70 °C / Rated value	Α	91	
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  O  O  O  O  O  O  O  O  O  O  O  O  O	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 0.5  of Intrip / Full-scale value  A 0.5  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 0.5  of Intrip / Full-scale value  A 0.5  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 0.5  of Initial value A 0.5  Adjustable response value current / of the current-dependent overload release / initial value	· · · · · · · · · · · · · · · · · · ·		system protection	
<ul> <li>of I-trip / Full-scale value</li> <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 10 <ul> <li>0.5</li> <li>Adjustable response value current / of the current-dependent overload release / initial value</li> </ul>	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 0.5 A 1	Adjustable response value current			
◆ for N-conductor protection / Full-scale value     Adjustable response value current / of the current-dependent overload release / initial value	● of I-trip / Full-scale value	Α	10	
Adjustable response value current / of the current- dependent overload release / initial value	• for N-conductor protection / initial value	Α	0.5	
dependent overload release / initial value	• for N-conductor protection / Full-scale value	Α	0.5	
	•	Α	1	
Product details	Product details			
Product component				

		N
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
<ul> <li>communication function</li> </ul>		No
Phase failure detection		No
<ul> <li>other measurement function</li> </ul>		No
Accessories		
Manufacturer article number / of the supplied basic		3VA1110-3FD42-0AA0
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
at 690 V / Rated value  Connections	kA	7.5
Connections Arrangement of electrical connectors / for main	kA	7.5 Front terminal
Connections	kA	

• 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	

### Certificates

#### **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	





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/3VA11103FD420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11103FD420AA0/all

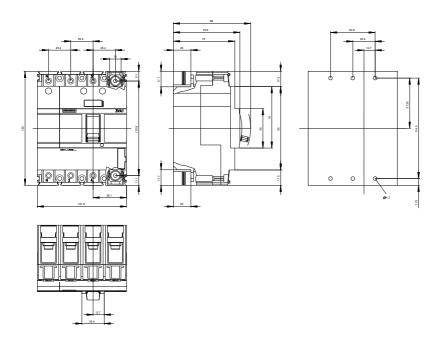
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11103FD420AA0

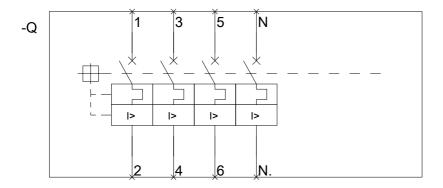
**CAx-Online-Generator** 

http://www.siemens.com/cax

**Tender specifications** 

http://ausschreibungstexte.siemens.com/tiplv





last modified: 11.03.2015