# **SIEMENS**

## Data sheet

# 3VA1180-5ED42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS M ICU=55KA @ 415 V 4-POLE, LINE PROTECTION TM210, FTFM, IN=80A OVERLOAD PROTECTION IR=80A FIXED SHORT CIRCUIT PROTECTION II=10 X IN NEUTRAL UNPROTECTED BUSBAR CONNECTION

Figure similar

Model		
product brand name	SENTRON	
Product designation	Molded case circu	iit breaker
Design of the product	Line protection	
Product variations	General Application	ons
Ground fault monitoring version	Without	
Design of the auxiliary release	Without auxiliary r	elease
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  Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  W 19.2  Electricity  Continuous current / Rated value / maximum  A 160  Continuous current / Rated value / A 80  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 or DC / Rated value  • of DC / Rated value  • at 40 °C / Rated value  • at 80 °C / Rated value  • at 70 °C /	Protection class IP		IP40
Switching capacity  Switching capacity class of the circuit breaker  Dissination  Active power loss  • maximum  W 19.2  Electricity  Continuous current / Rated value / maximum  A 160  Continuous current / Rated value / Maximum  • of the current-dependent overload release / A 1  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 current-value value	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  Dissipation  Active power loss  • maximum  Dissipation  Active power loss  • maximum  A 160  Continuous current / Rated value / maximum  A 160  Continuous current / Rated value  A 80  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  • 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 / of the current  • of the instantaneous short-circuit release / initial value  A 10  • of the instantaneous short-circuit release / initial value  • of the instantaneous short-circuit release / initial value  • of the current / of the current  • of the instantaneous short-circuit release / initial value  A 10  • of the instantaneous short-circuit release / initial value  • of the instantaneous short-circuit release / initial value  A 10  • of the instantaneous short-circuit release / initial value  A 10  • of the instantaneous shor	Protective function of the overcurrent release		u
Switching capacity class of the circuit breaker  Dissipation  Active power loss  • maximum  Dissipation  Active power loss  • maximum  Dissipation  Active power loss  • maximum  A 160  Continuous current / Rated value / maximum  A 160  Continuous current / Rated value  A 80  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  • 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 / of the current  • of the instantaneous short-circuit release / initial value  A 10  • of the instantaneous short-circuit release / initial value  • of the instantaneous short-circuit release / initial value  • of the current / of the current  • of the instantaneous short-circuit release / initial value  A 10  • of the instantaneous short-circuit release / initial value  • of the instantaneous short-circuit release / initial value  A 10  • of the instantaneous short-circuit release / initial value  A 10  • of the instantaneous shor	Switching capacity		
Active power loss  • maximum  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 50 °C / Rated value  • at 50 °C / Rated value  • at 65 °C / Rated value  • at 70 °C / Rated value  • at 70 °C / Rated value  • at 70 °C / Fated value  • at 70 °C /			M
Electricity  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  of the Correct Rated value  A 80  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 60 °C / Rated value  A 75  at 65 °C / Rated value  A 75  at 65 °C / Rated value  A 75  at 65 °C / Rated value  A 75  at 70 °C / Rated value  A 74  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitability  Suitabile parameters  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  A 0  Adjustable response value current / of the current-	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 65 °C / Rated value  • at 65 °C / Rated value  • at 70 °C / Rated value  A 75  • at 65 °C / Rated value  • at 70 °C	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  Main circuit  Operating voltage with AC / at 50/60 Hz / Rated value of or DC / Rated value  Operating current at 40 °C / Rated value A 80 at 55 °C / Rated value A 78 at 60 °C / Rated value A 77 at 60 °C / Rated value A 77 at 60 °C / Rated value A 77 Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Oguitability Suitability Suitability Full-scale value of or N-conductor protection / Full-scale value A 0 Adjustable response value current / of the current- Adjustable response value current / of the current-	• maximum	W	19.2
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-of the cur	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     v 600  Operating current     at 40 °C / Rated value     A 80     at 55 °C / Rated value     A 80     at 55 °C / Rated value     A 78     at 60 °C / Rated value     A 77     at 65 °C / Rated value     A 75     at 70 °C / Rated value     A 74  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Adjustable parameters  Adjustable response value current     of I-trip / Full-scale value     of or N-conductor protection / Full-scale value     of or N-conductor protection / Full-scale value     of or N-conductor protection / Full-scale value     odustable response value current / of the current-	Continuous current / Rated value	Α	80
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 40 °C / Rated value  • at 55 °C / Rated value  • at 60 °C / Rated value  • at 70 °C / Rated value  A 75  • at 70 °C / Rated value  A 74  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitable parameters  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  Adjustable response value current / of the current-	Adjustable response value current		
Main circuit		Α	1
Operating voltage		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 55 °C / Rated value     at 55 °C / Rated value     at 60 °C / Rated value     A 78     at 60 °C / Rated value     A 77     at 65 °C / Rated value     A 75     at 70 °C / Rated value     A 74  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     of or N-conductor protection / Full-scale value  Adjustable response value current / of the current-  Adjustable response value current / of the current-	Main circuit		
for DC / Rated value  Operating current      at 40 °C / Rated value     A 80      at 50 °C / Rated value     A 80      at 55 °C / Rated value     A 78      at 60 °C / Rated value     A 75      at 65 °C / Rated value     A 75      at 70 °C / Rated value     A 74  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     of or N-conductor protection / Full-scale value     of or N-conductor protection / Full-scale value     of or N-conductor protection / Full-scale value Adjustable response value current / of the current-	Operating voltage		
Operating current  • at 40 °C / Rated value A 80  • at 50 °C / Rated value A 78  • at 60 °C / Rated value A 77  • at 65 °C / Rated value A 75  • at 70 °C / Rated value A 75  • at 70 °C / Rated value A 74  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  Adjustable response value current / of the current-  Adjustable response value current / of the current-  Adjustable response value current / of the current-	• 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 55 °C / Rated value  A 78  at 60 °C / Rated value  A 77  at 65 °C / Rated value  A 75  at 70 °C / Rated value  A 75  at 70 °C / Rated value  A 74   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-  Adjustable response value current / of the current-	• for DC / Rated value	٧	600
at 50 °C / Rated value at 55 °C / Rated value A 78  at 60 °C / Rated value A 77  at 65 °C / Rated value A 75  at 70 °C / Rated value A 75  at 70 °C / Rated value A 74   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 Adjustable response value current of ron-conductor protection / Full-scale value Adjustable response value current / of the current-  Adjustable response value current / of the current-  A 1	Operating current		
at 55 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value At 77  at 65 °C / Rated value At 75  at 70 °C / Rated value At 74  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 of rN-conductor protection / Full-scale value Adjustable response value current / of the current-  Adjustable response value current / of the current-  Adjustable response value current / of the current-	• at 40 °C / Rated value	Α	80
at 60 °C / Rated value  at 65 °C / Rated value  A 75  at 70 °C / Rated value  A 74   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-  Adjustable response value current / of the current-  Adjustable response value current / of the current-	• at 50 °C / Rated value	Α	80
at 65 °C / Rated value  at 70 °C / Rated value  A 75  at 70 °C / Rated value  A 74   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-	• at 55 °C / Rated value	Α	78
at 70 °C / Rated value  A 74  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  5 Suitability  Suitability for use  Suitability for use  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-  Adjustable response value current / of the current-	• at 60 °C / Rated value	Α	77
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  of or N-conductor protection / Full-scale value  Adjustable response value current / of the current-  Adjustable response value current / of the current-	• at 65 °C / Rated value	Α	75
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-	• at 70 °C / Rated value	Α	74
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 A 0  for N-conductor protection / Full-scale value  Adjustable response value current / of the current-  Adjustable response value current / of the current-	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  Adjustable response value current / of the current-  Adjustable response value current / of the current-			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-  Adjustable response value current / of the current-	Suitability		
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-  A 1			system protection
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-  A 1	Adjustable parameters		
<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-</li> <li>A 1</li> </ul>	· · · · · · · · · · · · · · · · · · ·		
<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-</li> <li>A</li> <li>1</li> </ul>		Α	10
• for N-conductor protection / Full-scale value  Adjustable response value current / of the current-  A 1		Α	0
Adjustable response value current / of the current- A 1		Α	0
	Adjustable response value current / of the current-	A	1
Product details	Product details		
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		3VA1180-5ED42-0AA0
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
		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		
during storage / maximum	°C	80		

Certificates	
Equipment	marking

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

General Product Approval	EMC	Declaration of	Shipping Approval
		Conformity	











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/3VA11805ED420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11805ED420AA0/all

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

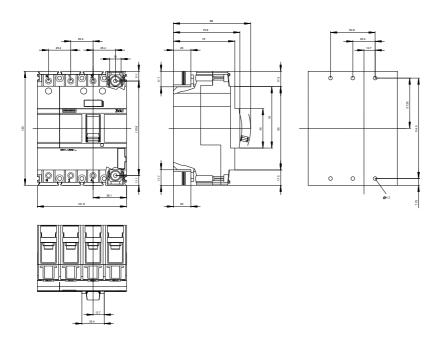
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11805ED420AA0

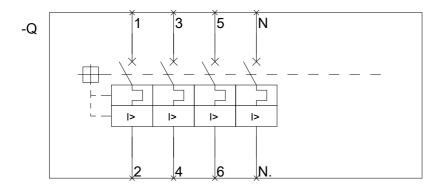
**CAx-Online-Generator** 

http://www.siemens.com/cax

**Tender specifications** 

http://ausschreibungstexte.siemens.com/tiplv





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