# **SIEMENS**

## Data sheet

## 3VA1110-4GE46-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS S ICU=36KA @ 415 V 4-POLE, LINE PROTECTION TM220, ATFM, IN=100A OVERLOAD PROTECTION IR=70A ...100A 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 LI  Switching capacity class of the circuit breaker S  Dissipation  Active power loss  • maximum W 25  Electricity  Continuous current / Rated value / maximum A 160 Continuous current / Rated value A 100  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 of C/ Rated value  • of the Of C/ Rated value  • of DC / Rated value  • at 50 °C / Rated value  • at 60 °C / Rated value  • at 60 °C / Rated value  • at 65 °C / Rated value  • at 70 °C / Rated val	Protection class IP		IP40
Switching capacity  Switching capacity class of the circuit breaker  S  Dissination  Active power loss  • maximum  W 25  Electricity  Continuous current / Rated value / maximum  A 160  Continuous current / Rated value — A 100  Adjustable response value current  • 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 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 60 °C / Rated value  • at 70	Protection class IP / on the front		IP40
Switching capacity class of the circuit breaker    Dissipation   Active power loss   • maximum   W   25	Protective function of the overcurrent release		Ц
Switching capacity class of the circuit breaker    Dissipation   Active power loss   • maximum   W   25	Switching capacity		
Active power loss  • maximum  Electricity  Continuous current / Rated value / maximum  Continuous current / Rated value  • 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 65 °C / Rated value  • at 70 °C / Rated value  • at 70 °C / Fated value  • a			S
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 65 °C / Rated value  • at 65 °C / Rated value  • at 67 °C / Rated value  • at 70 °C / Rated value  • at 80 °C / Rate			
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 or DC / Rated value  of or C / Rated value  of 0° C / Rated value  Adjustable response value current  of 0° C / Conductor protection / initial value  of 0° 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-	• 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  of the current-dependent overload release /  A 10  of the current-dependent overload of the current-dependent of the current	Electricity		
Adjustable response value current  of the current-dependent overload release / Full-scale value  of the instantaneous short-circuit release / initial value  of the initial value  of the instantaneous short-circuit release / initial value  of the initial value  of the initial value  of the current of the current-  of the current-  of the current-  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  of or DC / Rated value  Volume  Operating current  at 40 °C / Rated value  A 100  other at 50 °C / Rated value  A 100  other at 50 °C / Rated value  A 100  other at 50 °C / Rated value  A 98  other at 60 °C / Rated value  A 96  other at 60 °C / Rated value  A 96  other at 70 °C / Rated value  A 91  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 100  Adjustable response value current / of the current-  Adjustable response value current / of the current-	Continuous current / Rated value	А	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 699  Operating current  at 40 °C / Rated value  A 100  at 55 °C / Rated value  A 98  at 65 °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  OSuitability  Suitabile parameters  Adjustable parameters  Adjustable 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-  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     at 65 °C / Rated value     at 670 °C / Rated value     at 670 °C / Rated value     at 70 °C / Rated value  Adjustable 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-	Main circuit		
for DC / Rated value  Operating current      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 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 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  Adjustable response value current / of the current-  Adjustable response value current / of the current-  Adjustable response value current / of the current-  A 0.7	Operating voltage		
Operating current  • at 40 °C / Rated value A 100 • at 50 °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  Suitability  Suitability for use  Adjustable parameters  Adjustable response value current • of I-trip / Full-scale value A 100  Adjustable response value current / of the current- Adjustable response value current / of the current- Adjustable response value current / of the current- A 0.7	• with AC / at 50/60 Hz / Rated value	V	690
<ul> <li>at 40 °C / Rated value</li> <li>at 50 °C / Rated value</li> <li>at 55 °C / Rated value</li> <li>at 60 °C / Rated value</li> <li>at 65 °C / Rated value</li> <li>at 65 °C / Rated value</li> <li>at 70 °C / Rated value</li> <li>but 70 °C / Rated value</li> <li>at 70 °C / Rated value</li> <li>at 70 °C / Rated value</li> <li>but 91</li> </ul> Auxiliary circuit Number of CO contacts / for auxiliary contacts <ul> <li>system protection</li> </ul> Suitability Suitability for use <ul> <li>system protection</li> </ul> Adjustable parameters Adjustable response value current <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>Adjustable response value current / of the current-</li> </ul>	• for DC / Rated value	V	600
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 value at 70 °C / Rated value A 94  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 of or N-conductor protection / initial value of or N-conductor protection / Full-scale value Adjustable response value current of or 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-	Operating current		
at 55 °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  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- Adjustable response value current / of the current- A 0.7	• at 40 °C / Rated value	Α	100
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  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	100
at 65 °C / Rated value  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  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-  A 0.7	• 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 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	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  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	94
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 100  for N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-  Adjustable response value current / of the current-  A 0.7	• 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 A 10  for N-conductor protection / initial value A 100  for N-conductor protection / Full-scale value  A 100  Adjustable response value current / of the current-  Adjustable response value current / of the current-  A 0.7	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 value  System protection  A 10  A 10  A 100  Adjustable response value current / of the current-  A 0.7			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 value  System protection  A 10  A 10  A 100  Adjustable response value current / of the current-  A 0.7	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 0.7	· · · · · · · · · · · · · · · · · · ·		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>A 100</li> <li>Adjustable response value current / of the current-</li> <li>A 0.7</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-</li> <li>A 0.7</li> </ul>	Adjustable response value current		
<ul> <li>◆ for N-conductor protection / Full-scale value</li> <li>Adjustable response value current / of the current-</li> <li>A 0.7</li> </ul>	• of I-trip / Full-scale value	Α	10
Adjustable response value current / of the current- A 0.7	• for N-conductor protection / initial value	Α	100
	• for N-conductor protection / Full-scale value	Α	100
•	Adjustable response value current / of the current- dependent overload release / initial value	Α	0.7
Product details	Product details		
Product component			

Trip indicator		No
		No
• display		No
Voltage trigger		No
undervoltage release		
undervoltage release with leading contact		No
Product property		Na
<ul> <li>for neutral conductors / upgradeable/retrofittable / Short-circuit and</li> </ul>		No
overload proof		
Product expansion / optional / motor drive		Yes
Product function		
Product function		
Intrinsic device protection		Yes
communication function		No
Phase failure detection		No
other measurement function		No
• Other measurement function		110
Accessories		
Manufacturer article number / of the supplied basic		3VA1110-4GE46-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(Ics)		
	1. 4	55
• at 240 V / Rated value	kA	55
● at 415 V / Rated value	kA	36
	kA kA	36 25
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> </ul>	kA kA kA	36 25 15
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul>	kA kA	36 25
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu)	kA kA kA kA	36 25 15 5
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> </ul>	kA kA kA kA	36 25 15 5
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu)	kA kA kA kA	36 25 15 5 5 36
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> </ul>	kA kA kA kA kA kA	36 25 15 5 5 55 36 25
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> <li>at 415 V / Rated value</li> </ul>	kA kA kA kA kA kA	36 25 15 5 5 36 25 16
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul>	kA kA kA kA kA kA	36 25 15 5 5 55 36 25
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> </ul>	kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul>	kA kA kA kA kA kA	36 25 15 5 5 36 25 16
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Short-circuit current making capacity (Icm)	kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Short-circuit current making capacity (Icm) <ul> <li>at 240 V / Rated value</li> </ul>	kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16 7
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> <li>at 415 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Short-circuit current making capacity (Icm) <ul> <li>at 240 V / Rated value</li> </ul> Short-circuit current making capacity (Icm) <ul> <li>at 240 V / Rated value</li> </ul> at 415 V / Rated value <ul> <li>at 415 V / Rated value</li> </ul> • at 415 V / Rated value	kA kA kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16 7
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> <li>at 415 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Short-circuit current making capacity (Icm) <ul> <li>at 240 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Connections Arrangement of electrical connectors / for main	kA kA kA kA kA kA kA kA kA	36 25 15 5 5 55 36 25 16 7
<ul> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Maximum short-circuit current breaking capacity (Icu) <ul> <li>at 240 V / Rated value</li> <li>at 415 V / Rated value</li> <li>at 440 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Short-circuit current making capacity (Icm) <ul> <li>at 240 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at 690 V / Rated value</li> </ul> Connections Connections	kA kA kA kA kA kA kA kA kA	36 25 15 5  55 36 25 16 7  121 75.6 7.5

<ul> <li>of the round conductor terminal / str</li> </ul>	anded			1 x (1.5 - 70 mm²)	
Type of electrical connection / for main cu	irrent circuit			Box 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	
● acc. to DIN EN 81346-2				Q	
General EMC Product	Declaration Conformity		Ship	pping Approval	other

## Further information

**Approval** 

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

other

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

Industry Mall (Online ordering system)
https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11104GE460AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11104GE460AA0/all

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

http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11104GE460AA0

**CAx-Online-Generator** 

http://www.siemens.com/cax

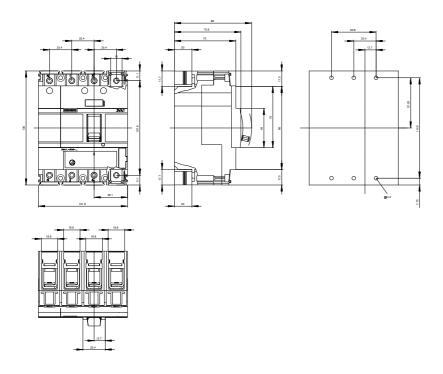
Tender specifications

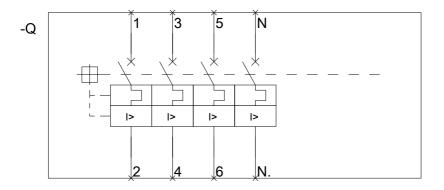
http://ausschreibungstexte.siemens.com/tiplv

other

GL

GL





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