# **SIEMENS**

## Data sheet

# 3VA2110-5HN46-0AA0



CIRCUIT BREAKER 3VA2 IEC FRAME 160 BREAKING CAPACITY CLASS M ICU=55KA @ 415 V 4POLE, LINE PROTECTION ETU350, LSI, IN=100A OVERLOAD PROTECTION IR=40A ...100A SHORT CIRCUIT PROTECTION ISD=1,5... 10 X IR, II=12 X IN NEUTRAL PROTECTION ADJUSTABLE(OFF,50%,100%) CABLE CONNECTION

Model				
product brand name		SENTRON		
Product designation		Molded case circuit breaker		
Design of the product		Line protection		
Product variations		Selective Applications		
Ground fault monitoring version		Without		
Design of the auxiliary release		without auxiliaryrelease		
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		ETU350		
General technical data				
Number of poles		4		
Trip class / of the L-trip / with I2t characteristic / initial value		0.5		
Trip class / of the L-trip / with I2t characteristic / Full- scale value		17		
Electrical endurance (switching cycles)				
• at AC-1 / at 380/415 V / at 50/60 Hz		12 000		
circuit-breaker / Design		3VA		
Mechanical service life (switching cycles) / typical		20 000		
Voltage				
Insulation voltage / Rated value	V	800		
Protection class				

Protection class IP       IP40         Protection class IP / on the front       IP40         Protective function of the overcurrent release       LSI         Switching capacity       Switching capacity         Switching capacity capacity       M         Dissipation       M         Active power loss       M         • maximum       W         Continuous current / Rated value / maximum       A         Adjustable response value current / of the instantaneous short-circuit release / initial value       12         Main circuit       Operating voltage       V         Operating voltage       V       690         Operating voltage       A       100         • at 60 °C / Rated value       A       100         • at 60 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • Auxiliary cincuit	
Protective function of the overcurrent release       LSI         Switching capacity       M         Dissipation       M         Active power loss       M         • maximum       W       10         Electricity       Continuous current / Rated value / maximum       A       160         Continuous current / Rated value / maximum       A       100         Adjustable response value current / of the instantaneous short-circuit release / initial value       12         Main circuit       Operating voltage       V       690         Operating outrage       • with AC / at 50/60 Hz / Rated value       V       690         Operating current       • at 40 °C / Rated value       A       100         • at 40 °C / Rated value       A       100       • at 50 °C / Rated value         • at 60 °C / Rated value       A       100       • at 65 °C / Rated value       A       100         • at 60 °C / Rated value       A       100       • at 65 °C / Rated value       A       100         • at 70 °C / Rated value       A       100       • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100       • at 70 °C / Rated value       A       100         • at 70 °C / Rated value	
Switching capacity       Switching capacity class of the circuit breaker     M       Dissipation     M       Active power loss <ul> <li>maximum</li> <li>W</li> <li>10</li> <li>Electricity</li> <li>Continuous current / Rated value / maximum</li> <li>A</li> <li>160</li> <li>Continuous current / Rated value / maximum</li> <li>A</li> <li>160</li> <li>Continuous current / Rated value</li> <li>A</li> <li>100</li> <li>Adjustable response value current / of the instantaneous short-circuit release / initial value</li> <li>Main circuit</li> <li>Operating voltage</li> <li>with AC / at 50/60 Hz / Rated value</li> <li>V</li> <li>690</li> <li>Operating current</li> <li>at 40 °C / Rated value</li> <li>A</li> <li>100</li> <li>at 50 °C / Rated value</li> <li>A</li> <li>100</li> <li>at 65 °C / Rated value</li> <li>A</li> <li>100</li> <li>at 65 °C / Rated value</li> <li>A</li> <li>100</li> <li>at 65 °C / Rated value</li> <li>A</li> <li>100</li> <li>Auxiliary circuit</li> <li>Number of NC contacts / for auxiliary contacts</li> <li>0</li> <li>Number of NO contacts / for auxiliary contacts</li> <li>0</li> <li>Suitability</li> <li>Suitability</li> <li>Suitability for use</li> <li>system protection</li> <li>Adjustable response value current</li> </ul>	
Switching capacity class of the circuit breaker       M         Dissipation       M         Active power loss       W       10         Electricity       W       10         Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       100         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage       V       690         Operating voltage       V       690       690         Operating voltage       V       690       690         Operating current       A       100       4       100         eat 40 °C / Rated value       A       100       4       100         eat 60 °C / Rated value       A       100       4       100         eat 60 °C / Rated value       A       100       4       100         eat 60 °C / Rated value       A       100       6       100       6         eat 70 °C / Rated value       A       100       6       100       6       100       6         Auxiliary circuit       Mumber of NC contacts / for auxiliary contacts       0       0       10	
Dissipation         Active power loss       W       10         Electricity       Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       100         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage       e       690       690         Operating voltage       e       at 40 °C / Rated value       V       690         Operating current       at 40 °C / Rated value       A       100       at 50 °C / Rated value       A       100         e at 60 °C / Rated value       A       100       at 65 °C / Rated value       A       100         e at 65 °C / Rated value       A       100       at 65 °C / Rated value       A       100         e at 70 °C / Rated value       A       100       at 70 °C / Rated value       A       100         Auxiliary circuit       Number of NC contacts / for auxiliary contacts       0       Number of NC contacts / for auxiliary contacts       0         Sultability       Sultability for use       system protection       Adjustable parameters       Adjustable response value current	
Active power loss       W       10         Electricity       Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       100         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage       V       690         • with AC / at 50/60 Hz / Rated value       V       690         Operating current       at 40 °C / Rated value       V       690         • at 40 °C / Rated value       A       100       at 50 °C / Rated value       A       100         • at 60 °C / Rated value       A       100       at 65 °C / Rated value       A       100         • at 65 °C / Rated value       A       100       at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100       at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100       at 70 °C / Rated value       A       100         • Suitability circuit       Number of NC contacts / for auxiliary contacts       0       0       Suitability         Suitability for use       system protection       Adjustable parameters       Adjustable response value current	
• maximum       W       10         Electricity          Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       100         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       V       690       Operating voltage       V       690         Operating current       A       100       A       100         e at 40 °C / Rated value       V       690       Operating current       A       100         e at 60 °C / Rated value       A       100       A       100         e at 60 °C / Rated value       A       100       A       100         e at 60 °C / Rated value       A       100       A       100         e at 60 °C / Rated value       A       100       A       100         e at 60 °C / Rated value       A       100       A       100         e at 60 °C / Rated value       A       100       A       100         e at 60 °C / Rated value       A       100       A       100         Mumber of NC contacts / for auxiliary contacts       0       O       O       O       O	
Electricity         Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       100         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage       V       690         Operating current       V       690         Operating current       A       100         • at 40 °C / Rated value       V       690         Operating current       A       100         • at 50 °C / Rated value       A       100         • at 60 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • Dumber of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0<	
Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       100         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       V       690         Operating voltage       •       •         • with AC / at 50/60 Hz / Rated value       V       690         Operating current       •       at 40 °C / Rated value       A         • at 40 °C / Rated value       A       100         • at 60 °C / Rated value       A       100         • at 60 °C / Rated value       A       100         • at 60 °C / Rated value       A       100         • at 60 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         Auxiliary circuit       Number of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0       0         Suitability       Suitability for use       system protection         Adjustable parameters       Adjustable response value current       Adjustable response value current	
Continuous current / Rated value       A       100         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage       V       690         • with AC / at 50/60 Hz / Rated value       V       690         Operating current       Image: Contract value       V       690         • at 40 °C / Rated value       A       100       100         • at 50 °C / Rated value       A       100       100         • at 60 °C / Rated value       A       100       100         • at 60 °C / Rated value       A       100       100         • at 70 °C / Rated value       A       100       100         • at 70 °C / Rated value       A       100       100         • at 70 °C / Rated value       A       100       100         • at 70 °C / Rated value       A       100       100         Auxiliary circuit       Image: Contacts / for auxiliary contacts       0       100         Number of NO contacts / for auxiliary contacts       0       0       100         Suitability       Suitability for use       system protection       100         Adjustable response value current       Image: Contact / for curren	
Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage       V       690         Operating current       A       100         • at 40 °C / Rated value       V       690         Operating current       A       100         • at 40 °C / Rated value       A       100         • at 50 °C / Rated value       A       100         • at 60 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • at 65 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       A       100         • at 70 °C / Rated value       O       Number of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0       O         Suitability       system protection         Adjustable parameters       Adjustable response value current       System protection	
Instantaneous short-circuit release / initial value         Main circuit         Operating voltage         • with AC / at 50/60 Hz / Rated value       V       690         Operating current	
Main circuit         Operating voltage       V       690         • with AC / at 50/60 Hz / Rated value       V       690         Operating current       Image: Constraint of the state of th	
Operating voltage       V       690         • with AC / at 50/60 Hz / Rated value       V       690         Operating current	
with AC / at 50/60 Hz / Rated value     V     690      Operating current <ul> <li>at 40 °C / Rated value</li> <li>A</li> <li>100</li> <li>at 50 °C / Rated value</li> <li>A</li> <li>100</li> <li>at 60 °C / Rated value</li> <li>A</li> <li>100</li> <li>at 65 °C / Rated value</li> <li>A</li> <li>100</li> </ul> <li>A 100</li>	
Operating current     A     100       • at 40 °C / Rated value     A     100       • at 50 °C / Rated value     A     100       • at 60 °C / Rated value     A     100       • at 65 °C / Rated value     A     100       • at 65 °C / Rated value     A     100       • at 65 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     A     100       • at 70 °C / Rated value     O     O       Number of NO contacts / for auxiliary contacts     0       • Suitability     Suitability       • Suitability for use     system protection       Adjustable parameters     Adjustable response value current	
• at 40 °C / Rated valueA100• at 50 °C / Rated valueA100• at 60 °C / Rated valueA100• at 65 °C / Rated valueA100• at 70 °C / Rated valueA0• at 70 °C / Rated value0• at 70 °C / Rated value•	
• at 50 °C / Rated value         A         100           • at 60 °C / Rated value         A         100           • at 65 °C / Rated value         A         100           • at 65 °C / Rated value         A         100           • at 70 °C / Rated value         A         100           • at 70 °C / Rated value         A         100           • at 70 °C / Rated value         A         100           • at 70 °C / Rated value         A         100           Suitiary circuit         0         0           Number of NC contacts / for auxiliary contacts         0           Suitability         0         0           Suitability for use         system protection           Adjustable parameters         Adjustable response value current	
• at 60 °C / Rated value         A         100           • at 65 °C / Rated value         A         100           • at 65 °C / Rated value         A         100           • at 70 °C / Rated value         A         100           Auxiliary circuit         A         100           Number of NC contacts / for auxiliary contacts         0           Number of NO contacts / for auxiliary contacts         0           Suitability         Suitability           Suitability for use         system protection           Adjustable parameters         Adjustable response value current	
• at 65 °C / Rated value         A         100           • at 70 °C / Rated value         A         100           Auxiliary circuit         A         100           Number of NC contacts / for auxiliary contacts         0           Number of NO contacts / for auxiliary contacts         0           Suitability         Suitability           Suitability for use         system protection           Adjustable parameters         Adjustable response value current	
Auxiliary circuit     0       Number of NC contacts / for auxiliary contacts     0       Number of NO contacts / for auxiliary contacts     0       Suitability     0       Suitability for use     system protection       Adjustable parameters     Adjustable response value current	
Number of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0         Suitability       0         Suitability for use       system protection         Adjustable parameters       Adjustable response value current	
Number of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0         Suitability       0         Suitability for use       system protection         Adjustable parameters       Adjustable response value current	
Number of NO contacts / for auxiliary contacts       0         Suitability       system protection         Adjustable parameters       Adjustable response value current	
Suitability for use     system protection       Adjustable parameters     Adjustable response value current	
Suitability for use     system protection       Adjustable parameters     Adjustable response value current	
Adjustable parameters       Adjustable response value current	
Adjustable response value current	
of I-trip / Full-scale value     A     12	
of the short-time delayed short-circuit release / A 1.5	
of the short-time delayed short-circuit release / A 10 Full-scale value	
Adjustable delay time	
• of S-trip / with I2t characteristic / initial value s 0.02	
• of S-trip / with I2t characteristic / Full-scale s 0.4	
Adjustable response value current / of the current-       A       0.4         dependent overload release / initial value       A       0.4	

Product details		
Product component		
• Trip indicator		No
• display		No
undervoltage release		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
<ul> <li>Phase failure detection</li> </ul>		No
<ul> <li>other measurement function</li> </ul>		No
Accessories		
Manufacturer article number / of the supplied basic switch		<u>3VA2110-5HN46-0AA0</u>
Short circuit		
Operational short-circuit current breaking capacity		
(Ics)		
• at 240 V / Rated value	kA	85
• at 415 V / Rated value	kA	55
• at 440 V / Rated value	kA	55
• at 500 V / Rated value	kA	36
• at 690 V / Rated value	kA	2.5
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	55
• at 500 V / Rated value	kA	36
• at 690 V / Rated value	kA	2.5
Short-circuit current making capacity (Icm)		
• at 240 V / Rated value	kA	187
• at 415 V / Rated value	kA	121
• at 440 V / Rated value	kA	121
• at 500 V / Rated value	kA	79
• at 690 V / Rated value	kA	3.75

Arrangement of electrical connectors / for main current circuit		Front termin	al	
Type of connectable conductor cross-section				
<ul> <li>of the round conductor terminal / stranded</li> </ul>		1 x (6-120 m	nm²)	
Type of electrical connection / for main current circuit		Box termina	I	
Mechanical Design				
Height	mm	181		
Width	mm	140		
Depth	mm	107		
Mounting type		fixed mounti	ng	
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 Product Approval	E	MC	Declaration of Conformity	Shipping Approval
		<u>other</u>	EG-Konf.	ĴÅ DNV DNV
Shipping other Approval				

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#### Further information

Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/lowvoltage/catalogs

other

Industry Mall (Online ordering system)

https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA21105HN460AA0

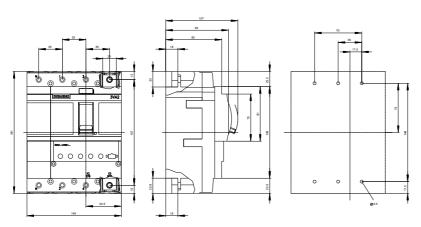
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA21105HN460AA0/all

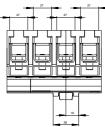
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA21105HN460AA0

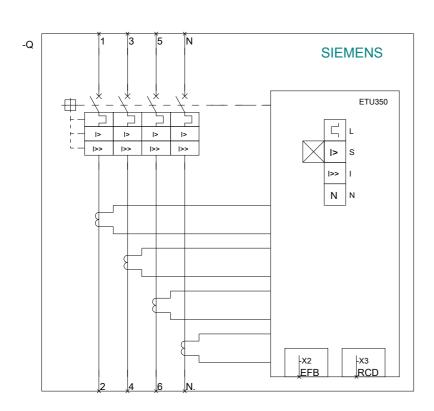
### **CAx-Online-Generator**

http://www.siemens.com/cax

Tender specifications http://ausschreibungstexte.siemens.com/tiplv







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