# **SIEMENS**

# Data sheet



# 3VA2163-7HN46-0AA0

CIRCUIT BREAKER 3VA2 IEC FRAME 160 BREAKING CAPACITY CLASS C ICU=110KA @ 415 V 4POLE, LINE PROTECTION ETU350, LSI, IN=63A OVERLOAD PROTECTION IR=25A ...63A SHORT CIRCUIT PROTECTION ISD=1,5... 10 X IR, II=12 X IN NEUTRAL PROTECTION ADJUSTABLE(OFF,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 / on the front       IP40         Protective function of the overcurrent release       LSI         Switching capacity       C         Dissipation       C         Active power loss       •         • maximum       W         4       60         Continuous current / Rated value / maximum       A         6       63         Adjustable response value current / of the       A         instantaneous short-circuit release / initial value       A         Operating voltage       •         • with AC / at 50/60 Hz / Rated value       A         • at 40 °C / Rated value       A         • at 65 °C / Rated value       A         • at 65 °C / Rated value       A         • at 70 °C / Rated value       0         Number of NC contacts / for auxillary contacts       0         Number of NC contacts / for auxillary contacts       0         Suitability       Suitability for use       system protection         Adjustable response value current       •       0      <	IP40         LSI         C         W       4         A       160         A       63
Protective function of the overcurrent release       LSI         Switching capacity       Switching capacity class of the circuit breaker       C         Dissipation       Active power loss       N         • maximum       W       4         Electricity       Continuous current / Rated value / maximum       A         Continuous current / Rated value / maximum       A       160         Continuous current / Rated value / maximum       A       63         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       690       Operating current         • at 40 °C / Rated value       A       63       -       -       -         • at 40 °C / Rated value       A       63       -	LSI         C         W       4         A       160         A       63
Switching capacity       Switching capacity class of the circuit breaker     C       Dissipation     C       Active power loss     V       • maximum     W     4       Electricity     Continuous current / Rated value / maximum     A     160       Continuous current / Rated value / maximum     A     160       Continuous current / Rated value     A     63       Adjustable response value current / of the instantaneous short-circuit release / initial value     A     12       Main circuit     V     690       Operating voltage     •     63       • with AC / at 50/60 Hz / Rated value     A     63       • at 40 °C / Rated value     A     63       • at 50 °C / Rated value     A     63       • at 60 °C / Rated value     A     63       • at 60 °C / Rated value     A     63       • at 60 °C / Rated value     A     63       • at 60 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • of I-trip / Full-scale value     A     12	C           W         4           A         160           A         63
Switching capacity class of the circuit breaker       C         Dissipation       Active power loss       W       4         Electricity       W       4         Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage       V       690         Operating voltage       V       690       63         • with AC / at 50/60 Hz / Rated value       V       690       63         Operating current       A       63       63         • at 40 °C / Rated value       A       63       63         • at 60 °C / Rated value       A       63       63         • at 60 °C / Rated value       A       63       63         • at 70 °C / Rated value       A       63       63         • at 70 °C / Rated value       A       63       63         • at 70 °C / Rated value       A       63       63         • at 70 °C / Rated value       A       63       63         • at 70 °C / Rated value       A       63       70	W         4           A         160           A         63
Dissipation         Active power loss         • maximum       W         4         Electricity         Continuous current / Rated value / maximum       A         160         Continuous current / Rated value       A         Adjustable response value current / of the instantaneous short-circuit release / initial value       12         Main circuit       Operating voltage         • with AC / at 50/60 Hz / Rated value       V       690         Operating current       63         • at 40 °C / Rated value       A       63         • at 40 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       0       Number of NC contacts / for auxiliary contacts         Number of NC contacts / for auxiliary contacts       0       0         Number of NO contacts / for auxiliary contacts       0       0         Suitability       system	W         4           A         160           A         63
Active power loss       W       4         Electricity       Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       63         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       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • Demoter of NC contacts / for auxiliary contacts       0         Number of NC contacts / for auxiliary contacts       0         Suitability       Suitability for use       system protection         Adjustable parameters       Adjustable response value current       A       12 <td>A 160 A 63</td>	A 160 A 63
• maximum     W     4       Electricity       Continuous current / Rated value / maximum     A     160       Continuous current / Rated value     A     63       Adjustable response value current / of the instantaneous short-circuit release / initial value     A     12       Main circuit       Operating voltage     •       • with AC / at 50/60 Hz / Rated value     V     690       Operating current     63       • at 40 °C / Rated value     A     63       • at 40 °C / Rated value     A     63       • at 60 °C / Rated value     A     63       • at 60 °C / Rated value     A     63       • at 65 °C / Rated value     A     63       • at 65 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 67 °C / Rated value     A     63       • at 67 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     B     <	A 160 A 63
Electricity         Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       V       690         Operating voltage       v       690         • with AC / at 50/60 Hz / Rated value       V       690         Operating current       -       -         • at 40 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 65 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • Suitability       O       O         Suitability       Suitability for use       system protection         Adjustable response value current       A       12	A 160 A 63
Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage       Image: Contend of the contend	A 63
Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage <ul> <li>with AC / at 50/60 Hz / Rated value</li> <li>V</li> <li>690</li> <li>Operating current                 <ul> <li>at 40 °C / Rated value</li> <li>A</li> <li>63</li> <li>at 50 °C / Rated value</li> <li>A</li> <li>63</li> <li>at 60 °C / Rated value</li> <li>A</li> <li>63</li> <li>at 70 °C / Rated value</li> <li>A</li> <li>63</li> <li>At 70 °C / Rated value</li></ul></li></ul>	A 63
Adjustable response value current / of the instantaneous short-circuit release / initial value       A       12         Main circuit       Operating voltage       v       690         Operating oursent       V       690         • at 40 °C / Rated value       V       690         Operating current       A       63         • at 40 °C / Rated value       A       63         • at 50 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       O       Number of NC contacts / for auxiliary contacts       O         Number of NO contacts / for auxiliary contacts       O       O         Suitability       Sustem protection         Adjustable parameters       Adjustable response value current       A       12	
Instantaneous short-circuit release / initial value       Main circuit         Operating voltage       •         • with AC / at 50/60 Hz / Rated value       V       690         Operating current       •         • at 40 °C / Rated value       A       63         • at 50 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 65 °C / Rated value       A       63         • at 65 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       0       0         Number of NC contacts / for auxillary contacts       0       0         Suitability       Suitability       system protection         Adjustable parameters       Adjustable response value current       A       12	A 12
Main circuit         Operating voltage       690         • with AC / at 50/60 Hz / Rated value       V       690         Operating current       63         • at 40 °C / Rated value       A       63         • at 50 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 65 °C / Rated value       A       63         • at 65 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • Dumber of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0         Suitability       Sustable parameters         Adjustable parameters       Adjustable response value current         • of I-trip / Full-scale value       A       12	
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       -         • at 40 °C / Rated value       A       63         • at 50 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 65 °C / Rated value       A       63         • at 65 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • Description       0       0         Number of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0         Suitability       system protection         Adjustable parameters       Adjustable response value current         • of I-trip / Full-scale value       A       12	
Operating current     A     63       • at 40 °C / Rated value     A     63       • at 50 °C / Rated value     A     63       • at 60 °C / Rated value     A     63       • at 65 °C / Rated value     A     63       • at 65 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     A     63       • at 70 °C / Rated value     O     O       Number of NC contacts / for auxiliary contacts     0       Suitability     Suitability     Suitability       Suitability     system protection       Adjustable parameters     A     12	
• at 40 °C / Rated valueA63• at 50 °C / Rated valueA63• at 60 °C / Rated valueA63• at 65 °C / Rated valueA63• at 70 °C / Rated valueO0• at 70 °C / Rated valueSuitability for use0• at 70 °C / Rated valueSuitability for useSuitability for use• at 70 °C / Rated valueA12	V 690
• at 50 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 60 °C / Rated value       A       63         • at 65 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         • at 70 °C / Rated value       A       63         Auxiliary circuit       0       0         Number of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0         Suitability       Suitability for use       system protection         Adjustable parameters       A       12	
<ul> <li>at 60 °C / Rated value</li> <li>at 65 °C / Rated value</li> <li>A 63</li> <li>at 70 °C / Rated value</li> <li>A 63</li> </ul> Auxiliary circuit           Auxiliary circuit           Number of NC contacts / for auxiliary contacts         0           Number of NO contacts / for auxiliary contacts         0           Suitability         system protection             Adjustable parameters           Adjustable response value current         A           • of I-trip / Full-scale value         A	A 63
e at 65 °C / Rated value         A         63           e at 70 °C / Rated value         A         63           Auxiliary circuit         A         63           Number of NC contacts / for auxiliary contacts         0           Number of NO contacts / for auxiliary contacts         0           Suitability         0           Suitability         system protection           Adjustable parameters         A           Adjustable response value current         A           • of I-trip / Full-scale value         A	A 63
• at 70 °C / Rated value       A       63         Auxiliary circuit       0         Number of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0         Suitability       system protection         Adjustable parameters       Adjustable response value current         • of I-trip / Full-scale value       A       12	A 63
• at 70 °C / Rated value       A       63         Auxiliary circuit       0         Number of NC contacts / for auxiliary contacts       0         Number of NO contacts / for auxiliary contacts       0         Suitability       system protection         Adjustable parameters       Adjustable response value current         • of I-trip / Full-scale value       A       12	A 63
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         • of I-trip / Full-scale value       A	
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         • of I-trip / Full-scale value       A	
Number of NO contacts / for auxiliary contacts       0         Suitability       Suitability for use         Suitability for use       system protection         Adjustable parameters       Adjustable response value current <ul> <li>of I-trip / Full-scale value</li> <li>A</li> <li>12</li> </ul>	0
Suitability       Suitability for use     system protection       Adjustable parameters       Adjustable response value current       • of I-trip / Full-scale value	
Suitability for use     system protection       Adjustable parameters     Adjustable response value current       • of I-trip / Full-scale value     A     12	č
Adjustable parameters       Adjustable response value current       • of I-trip / Full-scale value       A	
Adjustable response value current     A     12	system protection
of I-trip / Full-scale value     A     12	
	A 12
of the short-time delayed short-circuit release / A 1.5 initial value	ase / A 1.5
of the short-time delayed short-circuit release / A 10 Full-scale value	ase / A 10
Adjustable delay time	
• of S-trip / with I2t characteristic / initial value s 0.02	ie s 0.02
of S-trip / with I2t characteristic / Full-scale     s     0.4     value	
Adjustable response value current / of the current-       A       0.397         dependent overload release / initial value       A       0.397	

Product details		
Product component		
Trip indicator		No
● display		No
<ul> <li>undervoltage release</li> </ul>		No
Product property		
<ul> <li>for neutral conductors /</li> </ul>		No
upgradeable/retrofittable / Short-circuit and		
overload proof		
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		3VA2163-7HN46-0AA0
switch		
Short circuit		
Operational short-circuit current breaking capacity		
(Ics)		150
• at 240 V / Rated value	kA	150
• at 415 V / Rated value	kA	110
• at 440 V / Rated value	kA	110
• at 500 V / Rated value	kA	85
• at 690 V / Rated value	kA	2.5
Maximum short-circuit current breaking capacity (Icu)		
• at 240 V / Rated value	kA	150
• at 415 V / Rated value	kA	110
• at 440 V / Rated value	kA	110
• at 500 V / Rated value	kA	85
• at 690 V / Rated value	kA	2.5
Short-circuit current making capacity (Icm)		
• at 240 V / Rated value	kA	330
• at 415 V / Rated value	kA	242
• at 440 V / Rated value	kA	242
• at 500 V / Rated value	kA	187
• at 690 V / Rated value	kA	3.75
Connections		

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 mm²)		
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 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 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/3VA21637HN460AA0

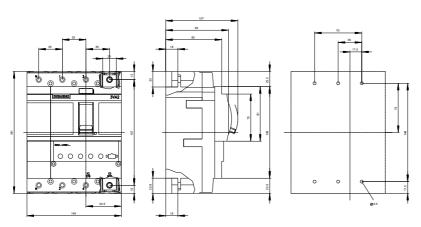
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA21637HN460AA0/all

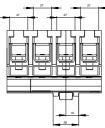
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA21637HN460AA0

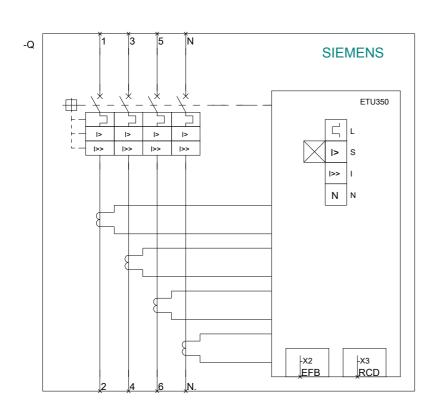
### **CAx-Online-Generator**

http://www.siemens.com/cax

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







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