



CIRCUIT-BREAKER VL160X N STANDARD  
 BREAKING CAPACITY ICU=55KA / 415 V AC 3 POLE,  
 LINE PROTECTION OVERCURRENT RELEASE TM, LI  
 IN=20A, RATED CURRENT IR=16...20A, OVERLOAD  
 II=300A, SHORT-CIRCUIT

Model		
Type of the driving mechanism / motor drive		No
Design of the overcurrent release		TM
General technical data		
Number of poles		3
Size of the circuit-breaker		3VL1
Electrical endurance (switching cycles) / typical		10 000
Usage category		A
Performance class for circuit breaker		N
Mechanical service life (switching cycles) / typical		20 000
Equipment marking / acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750		Q
Operating frequency / maximum	1/s	120
Voltage		
Rated operational voltage Ue / max.	V	690
Insulation voltage		
• rated value	V	800
• at AC / rated value	V	800

Surge voltage resistance / rated value	kV	8
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### Protection class

<b>Protection class IP</b>		IP20
<b>Protective function of the overcurrent release</b>		LI

### Electricity

Continuous current / rated value	A	20
Derating temperature / for the rated value of the continuous current	°C	50
<b>Adjustable response value current</b>		
<ul style="list-style-type: none"> <li>• of the current-dependent overload release / Full-scale value</li> </ul>	A	20
<ul style="list-style-type: none"> <li>• of the instantaneous short-circuit release / initial value</li> </ul>	A	300
<ul style="list-style-type: none"> <li>• of the instantaneous short-circuit release / Full-scale value</li> </ul>	A	300

### Main circuit

<b>Operating frequency</b>		
<ul style="list-style-type: none"> <li>• 1 / rated value</li> </ul>	Hz	50
<ul style="list-style-type: none"> <li>• 2 / rated value</li> </ul>	Hz	60
<b>Operating voltage</b>		
<ul style="list-style-type: none"> <li>• for main current circuit / at AC / at 50 Hz / maximum</li> </ul>	V	690
<ul style="list-style-type: none"> <li>• for main current circuit / at AC / at 60 Hz / maximum</li> </ul>	V	690
<ul style="list-style-type: none"> <li>• for main current circuit / at DC / maximum</li> </ul>	V	500
<b>Operating current</b>		
<ul style="list-style-type: none"> <li>• at 40 °C / rated value</li> </ul>	A	20
<ul style="list-style-type: none"> <li>• at 50 °C / rated value</li> </ul>	A	20
<ul style="list-style-type: none"> <li>• at 55 °C / rated value</li> </ul>	A	18.6
<ul style="list-style-type: none"> <li>• at 60 °C / rated value</li> </ul>	A	18.6
<ul style="list-style-type: none"> <li>• at 65 °C / rated value</li> </ul>	A	17.2
<ul style="list-style-type: none"> <li>• at 70 °C / rated value</li> </ul>	A	17.2

### Auxiliary circuit

Number of CO contacts / for auxiliary contacts		0
Number of NC contacts / for auxiliary contacts		0
Number of NO contacts / for auxiliary contacts		0

### Suitability

<b>Suitability for use</b>		system protection
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### Adjustable parameters

<b>Adjustable response value current / of the current-dependent overload release / initial value</b>	A	16
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## Product details

<b>Product component</b>		
• Trip indicator		No
• Auxiliary switch		No
• Voltage trigger		No
• undervoltage release		No
• undervoltage release with leading contact		No
Product expansion / optional / motor drive		Yes

## Product function

<b>Product function</b>		
• of the thermal overload release		adjustable
• Ground fault protection		No
• for neutral conductors / Short-circuit and overload proof		No
• Overload protection		Yes

## Short circuit

<b>Operational short-circuit current breaking capacity (Ics)</b>		
• at 240 V / rated value	kA	65
• at 415 V / rated value	kA	55
• at 500 V / rated value	kA	14
• at 690 V / rated value	kA	4
<b>Maximum short-circuit current breaking capacity (Icu)</b>		
• at 240 V / rated value	kA	65
• at 415 V / rated value	kA	55
• at 440 V / rated value	kA	25
• at 480 V / acc. to NEMA / rated value	kA	25
• at 500 V / rated value	kA	18
• at 600 V / acc. to NEMA / rated value	kA	8
• at 690 V / rated value	kA	8

## Connections

Arrangement of electrical connectors / for main current circuit		front side
Type of connectable conductor cross-sections		
• for main contacts		
— with flexible busbar		12 x 10 mm
— solid		2.5 ... 95 mm <sup>2</sup>
— finely stranded / with core end processing		2.5 ... 50 mm <sup>2</sup>
— stranded		2.5 ... 95 mm <sup>2</sup>
• for auxiliary contacts		
— solid		0.75 ... 1.5 mm <sup>2</sup>

— finely stranded / with core end processing		0,75 ... 1.0 mm <sup>2</sup>
Type of electrical connection / for main current circuit		box terminals

### Mechanical Design

<b>Height</b>	mm	157.5
<b>Width</b>	mm	104.5
<b>Depth</b>	mm	106.5
<b>Mounting type</b>		fixed mounting

### Environmental conditions

<b>Ambient temperature</b>		
• during operation / minimum	°C	0
• during operation / maximum	°C	70
• during storage / minimum	°C	-40
• during storage / maximum	°C	80

### Certificates

<b>Certificate of suitability</b>		IEC, standard switching capacity (N)
<b>Equipment marking</b>		
• acc. to DIN EN 61346-2		Q

General Product Approval	EMC
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Declaration of Conformity	Test Certificates	Shipping Approval
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Further information
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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/3VL17021DD330AA0>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3VL17021DD330AA0/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VL17021DD330AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VL17021DD330AA0)

CAx-Online-Generator

<http://www.siemens.com/cax>

Tender specifications

<http://ausschreibungstexte.siemens.com/tiplv>

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