

circuit breaker VL160X H high breaking capacity I<sub>cu</sub>=70kA, 415V AC 3-pole, line protection Trip Unit TM, LI I<sub>n</sub>=20A, rated current I<sub>r</sub>=20A, overload protection II=300A, short-circuit prot. without auxiliary release without auxiliary/alarm switch

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
mechanical service life (switching cycles) / typical	20 000
electrical endurance (switching cycles) / typical	10 000
utilization category	A
performance class for circuit breaker	N
reference code / acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750	Q
operating frequency / maximum	120 1/s
Voltage	
Rated operational voltage U <sub>e</sub> / max.	690 V
insulation voltage	
• rated value	800 V
• at AC / rated value	800 V
surge voltage resistance / rated value	8 kV
operating voltage	
• rated value / maximum	690 V
• for main current circuit / at AC / at 50 Hz / maximum	690 V
• for main current circuit / at AC / at 60 Hz / maximum	690 V
• for main current circuit / at DC / maximum	500 V
Protection class	
protection class IP	IP20
protection function of the overcurrent release	LI
Current	
operational current	
• at 40 °C / rated value	20 A
• at 45 °C / rated value	20 A
• at 50 °C / rated value	20 A
• at 55 °C / rated value	18.6 A
• at 60 °C / rated value	18.6 A
• at 65 °C / rated value	17.2 A
• at 70 °C / rated value	17.2 A
continuous current / rated value	20 A
derating temperature / for the rated value of the continuous current	50 °C
adjustable current response value current	
• of the current-dependent overload release / full-scale value	20 A
• of instantaneous short-circuit trip unit / initial value	300 A
• of instantaneous short-circuit trip unit / full-scale value	300 A
Main circuit	
operating frequency	

<ul style="list-style-type: none"> <li>• 1 / rated value</li> </ul>	50 Hz
<ul style="list-style-type: none"> <li>• 2 / rated value</li> </ul>	60 Hz
<b>Auxiliary circuit</b>	
number of CO contacts / for auxiliary contacts	0
number of NC contacts / for auxiliary contacts	0
number of NO contacts / for auxiliary contacts	0
<b>Suitability</b>	
suitability for use	system protection
<b>Adjustable parameters</b>	
adjustable current response value current / of the current-dependent overload release / initial value	16 A
<b>Product details</b>	
product component	
<ul style="list-style-type: none"> <li>• trip indicator</li> </ul>	No
<ul style="list-style-type: none"> <li>• auxiliary switch</li> </ul>	No
<ul style="list-style-type: none"> <li>• voltage trigger</li> </ul>	No
<ul style="list-style-type: none"> <li>• undervoltage release</li> </ul>	No
<ul style="list-style-type: none"> <li>• undervoltage release with leading contact</li> </ul>	No
product extension / optional / motor drive	Yes
<b>Product function</b>	
product function	
<ul style="list-style-type: none"> <li>• of thermal overload trip unit</li> </ul>	adjustable
<ul style="list-style-type: none"> <li>• grounding protection</li> </ul>	No
<ul style="list-style-type: none"> <li>• for neutral conductors / short-circuit and overload proof</li> </ul>	No
<ul style="list-style-type: none"> <li>• overload protection</li> </ul>	Yes
<b>Short circuit</b>	
breaking capacity operating short-circuit current (Ics)	
<ul style="list-style-type: none"> <li>• at 240 V / rated value</li> </ul>	75 kA
<ul style="list-style-type: none"> <li>• at 415 V / rated value</li> </ul>	70 kA
<ul style="list-style-type: none"> <li>• at 500 V / rated value</li> </ul>	23 kA
<ul style="list-style-type: none"> <li>• at 690 V / rated value</li> </ul>	6 kA
breaking capacity maximum short-circuit current (Icu)	
<ul style="list-style-type: none"> <li>• at 240 V / rated value</li> </ul>	100 kA
<ul style="list-style-type: none"> <li>• at 415 V / rated value</li> </ul>	70 kA
<ul style="list-style-type: none"> <li>• at 440 V / rated value</li> </ul>	42 kA
<ul style="list-style-type: none"> <li>• at 480 V / acc. to NEMA / rated value</li> </ul>	42 kA
<ul style="list-style-type: none"> <li>• at 500 V / rated value</li> </ul>	30 kA
<ul style="list-style-type: none"> <li>• at 600 V / acc. to NEMA / rated value</li> </ul>	12 kA
<ul style="list-style-type: none"> <li>• at 690 V / rated value</li> </ul>	12 kA
<b>Connections</b>	
arrangement of electrical connectors / for main current circuit	front side
type of connectable conductor cross-sections / for main contacts	
<ul style="list-style-type: none"> <li>• with flexible busbar</li> </ul>	12 x 10 mm
<ul style="list-style-type: none"> <li>• solid</li> </ul>	2.5 ... 95 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• finely stranded / with core end processing</li> </ul>	2.5 ... 50 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• stranded</li> </ul>	2.5 ... 95 mm <sup>2</sup>
type of connectable conductor cross-sections / for auxiliary contacts	
<ul style="list-style-type: none"> <li>• solid</li> </ul>	0.75 ... 1.5 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• finely stranded / with core end processing</li> </ul>	0,75 ... 1.0 mm <sup>2</sup>
type of electrical connection / for main current circuit	box terminal
<b>Mechanical Design</b>	
height	157.5 mm
width	104.5 mm
depth	106.5 mm

fastening method	fixed mounting
<b>Environmental conditions</b>	
ambient temperature / during operation	
• minimum	0 °C
• maximum	70 °C
ambient temperature / during storage	
• minimum	-40 °C
• maximum	80 °C
<b>Certificates</b>	
certificate of suitability	IEC, high switching capacity (H)
reference code	
• acc. to DIN EN 61346-2	Q
<b>General Product Approval</b>	<b>EMC</b>



[Miscellaneous](#)

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<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>			
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[Special Test Certificate](#)



<b>Marine / Shipping</b>	<b>other</b>
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[Confirmation](#)

[Manufacturer Declaration](#)

[Environmental Confirmations](#)

<b>other</b>
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[Miscellaneous](#)

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**Further information**

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

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

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VL1702-2DD33-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VL1702-2DD33-0AA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VL1702-2DD33-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VL1702-2DD33-0AA0)

CAX-Online-Generator

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

Tender specifications

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

