

circuit breaker VL160N standard breaking capacity I<sub>cu</sub>=55kA, 415V AC 4-pole, line protection Trip Unit TM, LI I<sub>n</sub>=50A, rated current I<sub>r</sub>=40...50A, overload prot. II=300...600A, short-circuit protection, N unprotected N unprotected Shunt release 110...127 V DC Auxiliary/alarm switch mounting kit 2 AUX (1 NO+1 NC)+1 AS (1 NO)

| Model                                                                                                                                                                                                                                                                    |                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| type of the driving mechanism / motor drive                                                                                                                                                                                                                              | No                                                       |
| design of the overcurrent release                                                                                                                                                                                                                                        | TM                                                       |
| General technical data                                                                                                                                                                                                                                                   |                                                          |
| number of poles                                                                                                                                                                                                                                                          | 4                                                        |
| size of the circuit-breaker                                                                                                                                                                                                                                              | 3VL2                                                     |
| 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 / according to DIN 40719 extended according to IEC 204-2 / according to IEC 750                                                                                                                                                                           | Q                                                        |
| operating frequency / maximum                                                                                                                                                                                                                                            | 120 1/s                                                  |
| Voltage                                                                                                                                                                                                                                                                  |                                                          |
| Rated operational voltage U <sub>e</sub> / max.                                                                                                                                                                                                                          | 690 V                                                    |
| <ul style="list-style-type: none"> <li>insulation voltage / rated value</li> <li>insulation voltage (U<sub>i</sub>) / at AC / rated value</li> </ul>                                                                                                                     | 800 V                                                    |
| surge voltage resistance / rated value                                                                                                                                                                                                                                   | 8 kV                                                     |
| operating voltage                                                                                                                                                                                                                                                        |                                                          |
| <ul style="list-style-type: none"> <li>rated value / maximum</li> <li>for main current circuit / at AC / at 50 Hz / maximum</li> <li>for main current circuit / at AC / at 60 Hz / maximum</li> <li>for main current circuit / at DC / maximum</li> </ul>                | 690 V<br>690 V<br>690 V<br>500 V                         |
| Protection class                                                                                                                                                                                                                                                         |                                                          |
| protection class IP                                                                                                                                                                                                                                                      | IP20                                                     |
| protection function of the overcurrent release                                                                                                                                                                                                                           | LI                                                       |
| Current                                                                                                                                                                                                                                                                  |                                                          |
| operational current                                                                                                                                                                                                                                                      |                                                          |
| <ul style="list-style-type: none"> <li>at 40 °C / rated value</li> <li>at 45 °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 70 °C / rated value</li> </ul> | 50 A<br>50 A<br>50 A<br>46.5 A<br>46.5 A<br>43 A<br>43 A |
| continuous current / rated value                                                                                                                                                                                                                                         | 50 A                                                     |
| derating temperature / for the rated value of the continuous current                                                                                                                                                                                                     | 50 °C                                                    |
| adjustable current response value current                                                                                                                                                                                                                                |                                                          |
| <ul style="list-style-type: none"> <li>of the current-dependent overload release / full-scale value</li> <li>of instantaneous short-circuit trip unit / minimum</li> <li>of instantaneous short-circuit trip unit / maximum</li> </ul>                                   | 50 A<br>300 A<br>600 A                                   |
| Main circuit                                                                                                                                                                                                                                                             |                                                          |
| operating frequency                                                                                                                                                                                                                                                      |                                                          |
| <ul style="list-style-type: none"> <li>1 / rated value</li> <li>2 / rated value</li> </ul>                                                                                                                                                                               | 50 Hz<br>60 Hz                                           |

|                                                                                                       |                              |
|-------------------------------------------------------------------------------------------------------|------------------------------|
| <b>Auxiliary circuit</b>                                                                              |                              |
| number of CO contacts / for auxiliary contacts                                                        | 0                            |
| number of NC contacts / for auxiliary contacts                                                        | 1                            |
| number of NO contacts / for auxiliary contacts                                                        | 2                            |
| <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 | 40 A                         |
| <b>Product details</b>                                                                                |                              |
| product component                                                                                     |                              |
| • trip indicator                                                                                      | Yes                          |
| • auxiliary switch                                                                                    | Yes                          |
| • voltage trigger                                                                                     | Yes                          |
| • undervoltage release                                                                                | No                           |
| • undervoltage release with leading contact                                                           | No                           |
| product extension / optional / motor drive                                                            | Yes                          |
| <b>Product function</b>                                                                               |                              |
| product function                                                                                      |                              |
| • of thermal overload trip unit                                                                       | adjustable                   |
| • grounding protection                                                                                | No                           |
| • for neutral conductors / short-circuit and overload proof                                           | No                           |
| • overload protection                                                                                 | Yes                          |
| <b>Short circuit</b>                                                                                  |                              |
| breaking capacity operating short-circuit current (Ics)                                               |                              |
| • at 240 V / rated value                                                                              | 65 kA                        |
| • at 415 V / rated value                                                                              | 55 kA                        |
| • at 500 V / rated value                                                                              | 20 kA                        |
| • at 690 V / rated value                                                                              | 6 kA                         |
| breaking capacity maximum short-circuit current (Icu)                                                 |                              |
| • at 240 V / rated value                                                                              | 65 kA                        |
| • at 415 V / rated value                                                                              | 55 kA                        |
| • at 440 V / rated value                                                                              | 25 kA                        |
| • at 480 V / according to NEMA / rated value                                                          | 25 kA                        |
| • at 500 V / rated value                                                                              | 25 kA                        |
| • at 600 V / according to NEMA / rated value                                                          | 12 kA                        |
| • at 690 V / rated value                                                                              | 12 kA                        |
| <b>Connections</b>                                                                                    |                              |
| 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>   |
| type of connectable conductor cross-sections / 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 terminal                 |
| <b>Mechanical Design</b>                                                                              |                              |
| height                                                                                                | 174.5 mm                     |
| width                                                                                                 | 139.5 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>General Product Approval</b>      |        |



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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=3VL2705-1EJ43-8KD1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VL2705-1EJ43-8KD1>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VL2705-1EJ43-8KD1](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VL2705-1EJ43-8KD1)

CAX-Online-Generator

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

Tender specifications

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



