

CIRCUIT-BREAKER VL 160N STANDARD BREAKING CAPACITY ICU=55KA / 415 V AC 4 POLE, LINE PROTECTION ELECTRONIC TRIP UNIT LCD ETU42, LSIG IN=100A, RATED CURRENT IR=40-100A, OVERLOAD ISD=1,5TO10XIR, II=11XIN SHORT-CIRCUIT N PROTECTED WITH EARTH FAULT WITH SCREW CONNECTION WITHOUT AUXILIARY RELEASE

| Model                                                                                   |     |           |
|-----------------------------------------------------------------------------------------|-----|-----------|
| Type of the driving mechanism / motor drive                                             |     | No        |
| Design of the overcurrent release                                                       |     | LCD ETU42 |
| General technical data                                                                  |     |           |
| Number of poles                                                                         |     | 4         |
| Size of the circuit-breaker                                                             |     | 3VL2      |
| 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                           |
| <b>Protection class</b>                                                                             |    |                             |
| <b>Protection class IP</b>                                                                          |    | IP20                        |
| <b>Protective function of the overcurrent release</b>                                               |    | LSING                       |
| <b>Electricity</b>                                                                                  |    |                             |
| Continuous current / rated value                                                                    | A  | 100                         |
| Derating temperature / for the rated value of the continuous current                                | °C | 50                          |
| <b>Adjustable pick-up value current</b>                                                             |    |                             |
| • of the current-dependent overload release / Full-scale value                                      | A  | 100                         |
| • of instantaneous short-circuit trip unit / initial value                                          | A  | 125                         |
| • of instantaneous short-circuit trip unit / Full-scale value                                       | A  | 1 100                       |
| <b>Main circuit</b>                                                                                 |    |                             |
| <b>Operating frequency</b>                                                                          |    |                             |
| • 1 / rated value                                                                                   | Hz | 50                          |
| • 2 / rated value                                                                                   | Hz | 60                          |
| <b>Operating voltage</b>                                                                            |    |                             |
| • for main current circuit / at AC / at 50 Hz / maximum                                             | V  | 690                         |
| • for main current circuit / at AC / at 60 Hz / maximum                                             | V  | 690                         |
| • for main current circuit / at DC / maximum                                                        | V  | 500                         |
| <b>Operating current</b>                                                                            |    |                             |
| • at 40 °C / rated value                                                                            | A  | 100                         |
| • at 50 °C / rated value                                                                            | A  | 100                         |
| • at 55 °C / rated value                                                                            | A  | 95                          |
| • at 60 °C / rated value                                                                            | A  | 95                          |
| • at 65 °C / rated value                                                                            | A  | 80                          |
| • at 70 °C / rated value                                                                            | A  | 80                          |
| <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>                                                                                  |    |                             |
| <b>Suitability for use</b>                                                                          |    | system/generator protection |
| <b>Adjustable parameters</b>                                                                        |    |                             |
| <b>Adjustable pick-up value current / of the current-dependent overload release / initial value</b> | A  | 40                          |

## 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 extension / optional / motor drive  |  | Yes |

## Product function

|                                                             |  |            |
|-------------------------------------------------------------|--|------------|
| <b>Product function</b>                                     |  |            |
| • of thermal overload trip unit                             |  | adjustable |
| • Ground fault protection                                   |  | Yes        |
| • for neutral conductors / Short-circuit and overload proof |  | Yes        |
| • 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 | 20 |
| • at 690 V / rated value                                         | kA | 6  |
| <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 | 25 |
| • at 600 V / acc. to NEMA / rated value                          | kA | 12 |
| • at 690 V / rated value                                         | kA | 12 |

## Connections

|                                                                 |  |                      |
|-----------------------------------------------------------------|--|----------------------|
| Arrangement of electrical connectors / for main current circuit |  | front side           |
| Type of electrical connection / for main current circuit        |  | screw-type terminals |

## Mechanical Design

|                      |    |                |
|----------------------|----|----------------|
| <b>Height</b>        | mm | 174.5          |
| <b>Width</b>         | mm | 139.5          |
| <b>Depth</b>         | mm | 106.5          |
| <b>Mounting type</b> |    | fixed mounting |

## Environmental conditions

|                              |    |     |  |
|------------------------------|----|-----|--|
| <b>Ambient temperature</b>   |    |     |  |
| • during operation / minimum | °C | -25 |  |
| • 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>          |            | Q                                    |
| • acc. to DIN EN 61346-2          |            |                                      |
| <b>General Product Approval</b>   | <b>EMC</b> | <b>Declaration of Conformity</b>     |



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|                          |                          |
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|--------------------------|--------------|
| <b>Shipping Approval</b> | <b>other</b> |
|--------------------------|--------------|



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## Further information

**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/3VL27101CN460AA0>

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

<http://support.automation.siemens.com/WW/view/en/3VL27101CN460AA0/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VL27101CN460AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VL27101CN460AA0)

**CAX-Online-Generator**

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

**Tender specifications**

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

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