

**Siemens  
EcoTech**



circuit breaker 3VA2 IEC Frame 160 breaking capacity class C  $I_{cu}=110 \text{ kA @ } 415 \text{ V}$  4-pole, line protection ETU330, LIG,  $I_n=100 \text{ A}$  overload protection  $I_r=40 \text{ A} \dots 100 \text{ A}$  short-circuit protection  $I_i=1.5 \dots 12 \times I_n$  neutral conductor protection adjustable (OFF, 50%, 100%) ground-fault protection  $I_g=0.2 \dots 1 \times I_n$   $t_g=0.1/0.3 \text{ s}$  nut keeper kit



| Model                                                                                                 |                                             |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------|
| product brand name                                                                                    | SENTRON                                     |
| product designation                                                                                   | Molded case circuit breaker                 |
| design of the product                                                                                 | Line protection                             |
| design of the overcurrent release                                                                     | ETU330                                      |
| protection function of the overcurrent release                                                        | LIG                                         |
| number of poles                                                                                       | 4                                           |
| General technical data                                                                                |                                             |
| insulation voltage / rated value                                                                      | 800 V                                       |
| operating voltage / at AC / rated value                                                               | 690 V                                       |
| power loss [W] / maximum                                                                              | 10 W                                        |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole           | 3.33 W                                      |
| mechanical service life (operating cycles) / typical                                                  | 25 000                                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                      | 14 000                                      |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                          | 9 800                                       |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof | No                                          |
| ground-fault monitoring version                                                                       | Summation current formation L + N conductor |
| product function                                                                                      |                                             |
| • communication function                                                                              | No                                          |
| • other measurement function                                                                          | No                                          |
| Net Weight                                                                                            | 3.2 kg                                      |
| Current                                                                                               |                                             |
| operational current                                                                                   |                                             |
| • at 40 °C                                                                                            | 100 A                                       |
| • at 45 °C                                                                                            | 100 A                                       |
| • at 50 °C                                                                                            | 100 A                                       |
| • at 55 °C                                                                                            | 100 A                                       |
| • at 60 °C                                                                                            | 100 A                                       |
| • at 65 °C                                                                                            | 100 A                                       |
| • at 70 °C                                                                                            | 100 A                                       |
| Switching capacity according to IEC 60947                                                             |                                             |
| switching capacity class of the circuit breaker                                                       | C                                           |
| maximum short-circuit current breaking capacity ( $I_{cu}$ )                                          |                                             |
| • at 240 V                                                                                            | 150 kA                                      |
| • at 415 V                                                                                            | 110 kA                                      |
| • at 440 V                                                                                            | 110 kA                                      |

|                                                                                                                                              |        |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <ul style="list-style-type: none"> <li>• at 500 V</li> <li>• at 690 V</li> </ul>                                                             | 85 kA  |
| operating short-circuit current breaking capacity (Ics)                                                                                      | 3 kA   |
| <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul> | 150 kA |
|                                                                                                                                              | 110 kA |
|                                                                                                                                              | 110 kA |
|                                                                                                                                              | 85 kA  |
|                                                                                                                                              | 2.5 kA |
| short-circuit current making capacity (Icm)                                                                                                  |        |
| <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul> | 330 kA |
|                                                                                                                                              | 242 kA |
|                                                                                                                                              | 242 kA |
|                                                                                                                                              | 187 kA |
|                                                                                                                                              | 3.7 kA |

#### Adjustable parameters

|                                                                                               |                           |
|-----------------------------------------------------------------------------------------------|---------------------------|
| product feature / for L-tripping / can be switched on/off                                     | No                        |
| adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic      |                           |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                | 40 A                      |
|                                                                                               | 100 A                     |
| adjustable response value delay time (tr) / for L-tripping / with I2t characteristic          |                           |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                | 0.5 s                     |
|                                                                                               | 17 s                      |
| adjustable response value setting current (Ii) / for I-tripping                               |                           |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                | 150 A                     |
|                                                                                               | 1 200 A                   |
| adjustable current response value current / for G-tripping / with standard characteristic     |                           |
| <ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul> | 20 A                      |
|                                                                                               | 100 A                     |
| adjustable response value delay time (tg) / for G-tripping / with I0t characteristic          |                           |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                | 0.1 s                     |
|                                                                                               | 0.3 s                     |
| adjustable setting current (InN) / for N-tripping                                             |                           |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                | 20 A                      |
|                                                                                               | 100 A                     |
| design of the N-conductor protection                                                          | adjustable OFF; 50%; 100% |
| product function / grounding protection                                                       | Yes                       |

#### Mechanical Design

|                                                                                                                               |         |
|-------------------------------------------------------------------------------------------------------------------------------|---------|
| product component                                                                                                             |         |
| <ul style="list-style-type: none"> <li>• undervoltage release</li> <li>• voltage trigger</li> <li>• trip indicator</li> </ul> | No      |
|                                                                                                                               | No      |
|                                                                                                                               | No      |
| height [in]                                                                                                                   | 7.13 in |
| height                                                                                                                        | 181 mm  |
| width [in]                                                                                                                    | 5.51 in |
| width                                                                                                                         | 140 mm  |
| depth [in]                                                                                                                    | 3.39 in |
| depth                                                                                                                         | 86 mm   |

#### Connections

|                                                                                           |                              |
|-------------------------------------------------------------------------------------------|------------------------------|
| arrangement of electrical connectors / for main current circuit                           | Front terminal               |
| type of electrical connection / for main current circuit                                  | on both sides nut keeper kit |
| type of connectable conductor cross-sections / for flat-bar terminal connection / minimum | 13 x 1 mm                    |
| type of connectable conductor cross-sections / for flat-bar terminal connection / maximum | 25 x 8 mm                    |
| design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)        | tin                          |
| design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)     | tin                          |

#### Auxiliary circuit

|                                                          |                 |
|----------------------------------------------------------|-----------------|
| number of CO contacts / for auxiliary contacts           | 0               |
| <b>Accessories</b>                                       |                 |
| product extension / optional / motor drive               | Yes             |
| <b>Environmental conditions</b>                          |                 |
| protection class IP / on the front                       | IP40            |
| ambient temperature                                      |                 |
| • during operation / minimum                             | -25 °C          |
| • during operation / maximum                             | 70 °C           |
| • during storage / minimum                               | -40 °C          |
| • during storage / maximum                               | 80 °C           |
| <b>Environmental footprint</b>                           |                 |
| global warming potential [CO2 eq] / total                | 61.814 kg       |
| global warming potential [CO2 eq] / during manufacturing | 14.6 kg         |
| global warming potential [CO2 eq] / during operation     | 48.9 kg         |
| global warming potential [CO2 eq] / after end of life    | -2.2 kg         |
| Siemens Eco Profile (SEP)                                | Siemens EcoTech |
| reference code / according to IEC 81346-2                | Q               |
| <b>Approvals / Certificates</b>                          |                 |
| <b>General Product Approval</b>                          |                 |



[Miscellaneous](#)



|     |                   |                      |
|-----|-------------------|----------------------|
| EMV | Test Certificates | Maritime application |
|-----|-------------------|----------------------|



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Miscellaneous](#)



|                      |       |
|----------------------|-------|
| Maritime application | other |
|----------------------|-------|



[CCS \(China Classification Society\)](#)



[Confirmation](#)

[Miscellaneous](#)

|                 |             |
|-----------------|-------------|
| Dangerous goods | Environment |
|-----------------|-------------|

[Transport Information](#)



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[Environmental Confirmations](#)

[Environmental Confirmations](#)

#### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3VA2110-7HM42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA2110-7HM42-0AA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA2110-7HM42-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA2110-7HM42-0AA0)

CAX-Online-Generator

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

Tender specifications

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





