



circuit breaker 3VA1 IEC Frame 160 breaking capacity class N Icu=25 kA @ 415 V  
2-pole, line protection TM210, FTFM, In=160 A overload protection Ir=160 A  
permanently set short-circuit protection Ii=10 x In 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   | TM210                       |
| protection function of the overcurrent release  | LI                          |
| number of poles   | 2                           |
| General technical data  |                             |
| insulation voltage / rated value  | 500 V                       |
| operating voltage / at DC / rated value   | 250 V                       |
| operating voltage / at AC / rated value   | 415 V                       |
| power loss [W] / maximum  | 25.34 W                     |
| mechanical service life (operating cycles) / typical  | 20 000                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                      | 9 000                       |
| electrical endurance (operating cycles) / at AC-1 / at 690 V  | 6 300                       |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof | No                          |
| ground-fault monitoring version   | Without                     |
| product function  |                             |
| • communication function  | No                          |
| • other measurement function  | No                          |
| Net Weight  | 678 g                       |
| Current   |                             |
| operational current   |                             |
| • at 40 °C  | 160 A                       |
| • at 45 °C  | 160 A                       |
| • at 50 °C  | 160 A                       |
| • at 55 °C  | 158 A                       |
| • at 60 °C  | 155 A                       |
| • at 65 °C  | 153 A                       |
| • at 70 °C  | 150 A                       |
| Switching capacity according to IEC 60947   |                             |
| switching capacity class of the circuit breaker   | N                           |
| maximum short-circuit current breaking capacity (Icu)   |                             |
| • at 240 V  | 36 kA                       |
| • at 415 V  | 25 kA                       |
| operating short-circuit current breaking capacity (Ics)   |                             |
| • at 240 V  | 36 kA                       |
| • at 415 V  | 25 kA                       |

|  |  |
|--|--|
| short-circuit current making capacity (I <sub>cm</sub> )                         |  |
| <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> </ul> | <p>75.5 kA</p> <p>52.5 kA</p>  |
| design of short-circuit protection   | For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service & Support in the last chapter |

#### Adjustable parameters

|   |                               |
|---|-------------------------------|
| product feature / for L-tripping / can be switched on/off   | No                            |
| adjustable response value setting current (I <sub>r</sub> ) / of the L-trip / with I <sub>2t</sub> characteristic |                               |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                                    | <p>160 A</p> <p>160 A</p>     |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic     |                               |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                                    | <p>1 s</p> <p>1 s</p>         |
| adjustable response value setting current (I <sub>i</sub> ) / for I-tripping                                      |                               |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                                    | <p>1 600 A</p> <p>1 600 A</p> |
| adjustable setting current (I <sub>nN</sub> ) / for N-tripping  |                               |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                                    | <p>0 A</p> <p>0 A</p>         |
| product function / grounding protection   | No                            |

#### Mechanical Design

|   |                               |
|---|-------------------------------|
| product component   |                               |
| <ul style="list-style-type: none"> <li>• undervoltage release</li> <li>• voltage trigger</li> <li>• trip indicator</li> </ul> | <p>No</p> <p>No</p> <p>No</p> |
| height [in]   | 5.12 in                       |
| height  | 130 mm                        |
| width [in]  | 2 in                          |
| width   | 50.8 mm                       |
| depth [in]  | 2.76 in                       |
| depth   | 70 mm                         |

#### Connections

|   |                             |
|---|-----------------------------|
| arrangement of electrical connectors / for main current circuit                           | Front terminal              |
| type of electrical connection / for main current circuit                                  | nut keeper kit on both ends |
| type of connectable conductor cross-sections / for flat-bar terminal connection / minimum | 12 x 1 mm                   |
| type of connectable conductor cross-sections / for flat-bar terminal connection / maximum | 17 x 6,5 mm                 |
| design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)        | Silver                      |
| 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 |
|--|---|

#### Accessories

|  |    |
|--|----|
| product extension / optional / motor drive | No |
|--|----|

#### Environmental conditions

|  |   |
|--|---|
| protection class IP / on the front   | IP40  |
| ambient temperature  |   |
| <ul style="list-style-type: none"> <li>• during operation / minimum</li> <li>• during operation / maximum</li> <li>• during storage / minimum</li> <li>• during storage / maximum</li> </ul> | <p>-25 °C</p> <p>70 °C</p> <p>-40 °C</p> <p>80 °C</p> |

#### Environmental footprint

|  |         |
|--|---------|
| Environmental Product Declaration (EPD)                              | Yes     |
| global warming potential [CO <sub>2</sub> eq] / total                | 126 kg  |
| global warming potential [CO <sub>2</sub> eq] / during manufacturing | 2.72 kg |
| global warming potential [CO <sub>2</sub> eq] / during operation     | 124 kg  |

|   |           |
|---|-----------|
| global warming potential [CO2 eq] / after end of life | -0.365 kg |
| reference code / according to IEC 81346-2             | Q         |

### Approvals / Certificates

#### General Product Approval



[Miscellaneous](#)



#### General Product Approval      EMV      Test Certificates

[Confirmation](#)



EG-Konf.



RCM

[Miscellaneous](#)

[Special Test Certificate](#)

#### Test Certificates      Maritime application      other

[Type Test Certificates/Test Report](#)



DNV

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

[Miscellaneous](#)

[Confirmation](#)

#### other      Environment



[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,...)

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

#### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA1116-3ED22-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1116-3ED22-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1116-3ED22-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1116-3ED22-0AA0)

#### CAX-Online-Generator

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

#### Tender specifications

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

#### Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP='HAUPT'></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>)





