



circuit breaker 3VM1 IEC frame 160 breaking capacity class N  $I_{cu}=25kA @ 415V$   
3-pole, line protection TM220, ATFM,  $I_n=16A$  overload protection  $I_r=11A...16A$   
short-circuit protection  $I_i=20 \times I_n$  nut keeper kit (for products not manufactured in  
China, only CE and EEQCO Scheme-X certifications are available)

| Model                                                                                                 |                             |
|-------------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                                    | SENTRON                     |
| product designation                                                                                   | Molded case circuit breaker |
| design of the product                                                                                 | Line protection             |
| design of the overcurrent release                                                                     | TM220                       |
| protection function of the overcurrent release                                                        | LI                          |
| number of poles                                                                                       | 3                           |
| General technical data                                                                                |                             |
| insulation voltage / rated value                                                                      | 800 V                       |
| operating voltage / at AC / at 50/60 Hz / rated value                                                 | 500 V                       |
| operating voltage / at DC / rated value                                                               | 500 V                       |
| operating voltage / at AC / rated value                                                               | 690 V                       |
| power loss [W] / maximum                                                                              | 11 W                        |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole           | 3.53 W                      |
| mechanical service life (operating cycles) / typical                                                  | 15 000                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                      | 6 000                       |
| 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                                                                                            | 979 g                       |
| Current                                                                                               |                             |
| operational current                                                                                   |                             |
| • at 40 °C                                                                                            | 16 A                        |
| • at 45 °C                                                                                            | 16 A                        |
| • at 50 °C                                                                                            | 16 A                        |
| • at 55 °C                                                                                            | 16 A                        |
| • at 60 °C                                                                                            | 15 A                        |
| • at 65 °C                                                                                            | 15 A                        |
| • at 70 °C                                                                                            | 15 A                        |
| Switching capacity according to IEC 60947                                                             |                             |
| switching capacity class of the circuit breaker                                                       | N                           |
| maximum short-circuit current breaking capacity ( $I_{cu}$ )                                          |                             |
| • at 240 V                                                                                            | 36 kA                       |
| • at 415 V                                                                                            | 25 kA                       |
| • at 440 V                                                                                            | 16 kA                       |

|                                                                                                                          |                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at 500 V</li> </ul>                                                             | 7 kA                                                                                                                                                          |
| operating short-circuit current breaking capacity (Ics)                                                                  |                                                                                                                                                               |
| <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> </ul> | 27 kA<br>18 kA<br>12 kA<br>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> </ul> | 76 kA<br>53 kA<br>32 kA<br>12 kA                                                                                                                              |
| design of short-circuit protection                                                                                       | For switching capacity values in DC power systems, see the 3VA Molded Case Circuit Breaker Manual; link available 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 (Ir) / of the L-trip / with I2t characteristic |                |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>           | 11 A<br>16 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>           | 1 s<br>1 s     |
| adjustable response value setting current (Ii) / for I-tripping                          |                |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>           | 320 A<br>320 A |
| adjustable setting current (InN) / for N-tripping                                        |                |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>           | 0 A<br>0 A     |
| adjustable current response value current / of instantaneous short-circuit trip unit     |                |
| <ul style="list-style-type: none"> <li>• maximum</li> </ul>                              | 320 A          |
| 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> | No<br>No<br>No |
| height [in]                                                                                                                   | 5.12 in        |
| height                                                                                                                        | 130 mm         |
| width [in]                                                                                                                    | 3 in           |
| width                                                                                                                         | 76.2 mm        |
| depth [in]                                                                                                                    | 2.76 in        |
| depth                                                                                                                         | 70 mm          |

#### Connections

|                                                                                           |                             |
|-------------------------------------------------------------------------------------------|-----------------------------|
| arrangement of electrical connectors / for main current circuit                           | Front connection            |
| 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                |        |
| • during operation / minimum       | -25 °C |
| • during operation / maximum       | 70 °C  |
| • during storage / minimum         | -40 °C |
| • during storage / maximum         | 80 °C  |

#### Approvals / Certificates

##### General Product Approval



[Miscellaneous](#)



[Confirmation](#)



##### General Product Approval

##### Test Certificates

##### Maritime application



[Type Test Certificates/Test Report](#)

[Miscellaneous](#)



##### Maritime application

##### other

##### Environment



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

[Confirmation](#)



[Environmental Confirmations](#)

##### Environment

[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=3VM1196-3EE32-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VM1196-3EE32-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VM1196-3EE32-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VM1196-3EE32-0AA0)

##### CAX-Online-Generator

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

##### Tender specifications

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

##### Kennlinien

<https://curves.simarisiemens.com/curves/3VM1196-3EE32-0AA0>





