



circuit breaker 3VM1 IEC frame 160 breaking capacity class S  $I_{cu}=36\text{kA}$  @ 415V  
2-pole, line protection TM210, FTFM,  $I_n=20\text{A}$  overload protection  $I_r=20\text{A}$ , not  
adjustable short-circuit protection  $I_i=16 \times I_n$  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 AC / at 50/60 Hz / rated value   | 415 V                       |
| operating voltage / at DC / rated value   | 250 V                       |
| operating voltage / at AC / rated value   | 415 V                       |
| power loss [W] / maximum  | 8 W                         |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole           | 4 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  | 655 g                       |
| Current   |                             |
| operational current   |                             |
| • at 40 °C  | 20 A                        |
| • at 45 °C  | 20 A                        |
| • at 50 °C  | 20 A                        |
| • at 55 °C  | 20 A                        |
| • at 60 °C  | 19 A                        |
| • at 65 °C  | 19 A                        |
| • at 70 °C  | 19 A                        |
| Switching capacity according to IEC 60947   |                             |
| switching capacity class of the circuit breaker   | S                           |
| maximum short-circuit current breaking capacity ( $I_{cu}$ )  |                             |
| • at 240 V  | 55 kA                       |
| • at 415 V  | 36 kA                       |
| operating short-circuit current breaking capacity ( $I_{cs}$ )  |                             |
| • at 240 V  | 41 kA                       |
| • at 415 V  | 27 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>   | 121 kA<br>76 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 |
| <b>Adjustable parameters</b>   |   |
| 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>   | 20 A<br>20 A  |
| 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>   | 1 s<br>1 s  |
| 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>   | 320 A<br>320 A  |
| adjustable setting current (I <sub>nN</sub> ) / 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  |
| <b>Mechanical Design</b>   |   |
| 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]   | 2 in  |
| width  | 50.8 mm   |
| depth [in]   | 2.76 in   |
| depth  | 70 mm   |
| <b>Connections</b>   |   |
| 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   |
| <b>Auxiliary circuit</b>   |   |
| number of CO contacts / for auxiliary contacts   | 0   |
| <b>Accessories</b>   |   |
| product extension / optional / motor drive   | No  |
| <b>Environmental conditions</b>  |   |
| 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> | -25 °C<br>70 °C<br>-40 °C<br>80 °C  |
| <b>Approvals / Certificates</b>  |   |
| <b>General Product Approval</b>  |   |



[Confirmation](#)



[Miscellaneous](#)

| General Product Approval | Test Certificates | Marine / Shipping |
|--------------------------|-------------------|-------------------|
|--------------------------|-------------------|-------------------|



[Miscellaneous](#)



| Marine / Shipping | other | Environment |
|-------------------|-------|-------------|
|-------------------|-------|-------------|



[Miscellaneous](#)

[Confirmation](#)

[Environmental Confirmations](#)

[Environmental Confirmations](#)

#### Further information

Information on the packaging

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

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=3VM1120-4ED22-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VM1120-4ED22-0AA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VM1120-4ED22-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VM1120-4ED22-0AA0)

CAX-Online-Generator

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

Tender specifications

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





