



circuit breaker 3VM1 IEC frame 160 breaking capacity class M Icu=55kA @ 415V  
 4-pole, line protection TM220, ATFM, In=20A overload protection Ir=14A...20A  
 short-circuit protection Ii=16 x In N conductor protection 100% 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   | TM220                       |
| protection function of the overcurrent release  | LI                          |
| number of poles   | 4                           |
| 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  | 12 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  | 1.2 kg                      |
| 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   | M                           |
| maximum short-circuit current breaking capacity (Icu)   |                             |
| • at 240 V  | 85 kA                       |
| • at 415 V  | 55 kA                       |
| • at 440 V  | 36 kA                       |
| • at 500 V  | 10 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>  | 63 kA<br>41 kA<br>27 kA<br>5 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> <li>• at 440 V</li> <li>• at 500 V</li> </ul> | 187 kA<br>121 kA<br>76 kA<br>17 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 (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> | 14 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>  | 20 A<br>20 A   |
| adjustable current response value current / of instantaneous short-circuit trip unit <ul style="list-style-type: none"> <li>• maximum</li> </ul>   | 320 A          |
| design of the N-conductor protection   | 100%           |
| 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]  | 4 in           |
| width   | 101.6 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 <ul style="list-style-type: none"> <li>• during operation / minimum</li> </ul> | -25 °C |

- during operation / maximum
- during storage / minimum
- during storage / maximum

70 °C  
-40 °C  
80 °C

## Approvals / Certificates

### General Product Approval



[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=3VM1120-5GE42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VM1120-5GE42-0AA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VM1120-5GE42-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VM1120-5GE42-0AA0)

### CAX-Online-Generator

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

### Tender specifications

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





