



circuit breaker 3VA1 IEC Frame 250 breaking capacity class H  $I_{cu}=70 \text{ kA} @ 415 \text{ V}$   
4-pole, line protection TM240, ATAM,  $I_n=160 \text{ A}$  overload protection  $I_r=112 \text{ A} \dots 160 \text{ A}$   
A short-circuit protection  $I_i=5 \dots 10 \times I_n$  neutral conductor protection 50% nut keeper kit

| Model                                                                                                 |                             |
|-------------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                                    | SETRON                      |
| product designation                                                                                   | Molded case circuit breaker |
| design of the product                                                                                 | Line protection             |
| design of the overcurrent release                                                                     | TM240                       |
| protection function of the overcurrent release                                                        | LI                          |
| number of poles                                                                                       | 4                           |
| General technical data                                                                                |                             |
| insulation voltage / rated value                                                                      | 800 V                       |
| operating voltage / at DC / rated value                                                               | 600 V                       |
| operating voltage / at AC / rated value                                                               | 690 V                       |
| power loss [W] / maximum                                                                              | 33 W                        |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole           | 11 W                        |
| mechanical service life (operating cycles) / typical                                                  | 20 000                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                      | 8 000                       |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                          | 5 400                       |
| 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                                                                                            | 2.1 kg                      |
| Current                                                                                               |                             |
| operational current                                                                                   |                             |
| • at 40 °C                                                                                            | 160 A                       |
| • at 45 °C                                                                                            | 160 A                       |
| • at 50 °C                                                                                            | 160 A                       |
| • at 55 °C                                                                                            | 156 A                       |
| • at 60 °C                                                                                            | 151 A                       |
| • at 65 °C                                                                                            | 147 A                       |
| • at 70 °C                                                                                            | 142 A                       |
| Switching capacity according to IEC 60947                                                             |                             |
| switching capacity class of the circuit breaker                                                       | H                           |
| maximum short-circuit current breaking capacity ( $I_{cu}$ )                                          |                             |
| • at 240 V                                                                                            | 100 kA                      |
| • at 415 V                                                                                            | 70 kA                       |
| • at 440 V                                                                                            | 36 kA                       |

|                                                                                                                                                                                                      |                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at 500 V</li> <li>• at 690 V</li> </ul>                                                                                                                     | 15 kA<br>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> <li>• at 690 V</li> </ul> | 100 kA<br>70 kA<br>36 kA<br>10 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> <li>• at 690 V</li> </ul>             | 220 kA<br>154 kA<br>75.6 kA<br>30 kA<br>17 kA                                                                                                                  |
| 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 |
| <b>Adjustable parameters</b>                                                                                                                                                                         |                                                                                                                                                                |
| 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>                              | 112 A<br>160 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>                                                       | 800 A<br>1 600 A                                                                                                                                               |
| adjustable setting current (InN) / for N-tripping <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                                                                     | 80 A<br>80 A                                                                                                                                                   |
| design of the N-conductor protection                                                                                                                                                                 | 50%                                                                                                                                                            |
| 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]                                                                                                                                                                                          | 6.22 in                                                                                                                                                        |
| height                                                                                                                                                                                               | 158 mm                                                                                                                                                         |
| width [in]                                                                                                                                                                                           | 5.51 in                                                                                                                                                        |
| width                                                                                                                                                                                                | 140 mm                                                                                                                                                         |
| depth [in]                                                                                                                                                                                           | 2.76 in                                                                                                                                                        |
| depth                                                                                                                                                                                                | 70 mm                                                                                                                                                          |
| <b>Connections</b>                                                                                                                                                                                   |                                                                                                                                                                |
| 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                                                                                                            | 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)                                                                                                                   | Silver                                                                                                                                                         |
| design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)                                                                                                                | Silver                                                                                                                                                         |
| <b>Auxiliary circuit</b>                                                                                                                                                                             |                                                                                                                                                                |
| number of CO contacts / for auxiliary contacts                                                                                                                                                       | 0                                                                                                                                                              |
| <b>Accessories</b>                                                                                                                                                                                   |                                                                                                                                                                |
| product extension / optional / motor drive                                                                                                                                                           | Yes                                                                                                                                                            |

| 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                                                                               |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Environmental footprint                                                             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| global warming potential [CO2 eq] / total                                           | 285.47 kg                                                                           |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| global warming potential [CO2 eq] / during manufacturing                            | 6.87 kg                                                                             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| global warming potential [CO2 eq] / during operation                                | 279 kg                                                                              |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| global warming potential [CO2 eq] / after end of life                               | -0.78 kg                                                                            |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| reference code / according to IEC 81346-2                                           | Q                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Approvals / Certificates                                                            |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| General Product Approval                                                            |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|    |    |    | <a href="#">Confirmation</a>                                                        |    | <a href="#">Miscellaneous</a>                                                         |
| General Product Approval                                                            |                                                                                     | EMV                                                                                 | Test Certificates                                                                   |                                                                                       |                                                                                       |
|    |    |    | <a href="#">Miscellaneous</a>                                                       | <a href="#">Type Test Certificates/Test Report</a>                                    | <a href="#">Special Test Certificate</a>                                              |
| Maritime application                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                       | other                                                                                 |
|  |  |  |  |  |  |
| other                                                                               |                                                                                     | Environment                                                                         |                                                                                     |                                                                                       |                                                                                       |
| <a href="#">Confirmation</a>                                                        | <a href="#">Miscellaneous</a>                                                       |  | <a href="#">Environmental Confirmations</a>                                         | <a href="#">Environmental Confirmations</a>                                           |                                                                                       |

#### 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=3VA1216-6FF42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1216-6FF42-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1216-6FF42-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1216-6FF42-0AA0)

##### CAX-Online-Generator

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

##### Tender specifications

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





