



circuit breaker 3VA5 UL Frame 250 breaking capacity class M 35 kA @ 480 V 4-pole, line protection TM210, FTFM, In=90 A overload protection, 100%-rated Ir=90 A permanently set short-circuit protection Ii=10 x In N conductor unprotected without connection

| Model  |                             |
|--|-----------------------------|
| product brand name   | SENTRON                     |
| product designation  | Molded-case circuit breaker |
| product designation / according to UL file   | MFAS                        |
| design of the product  | System protection           |
| design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type) | Yes                         |
| design of the load switch / according to UL 489 / High-Intensity-Discharge circuit breaker (HID Type)                      | No                          |
| design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type)                                | No                          |
| design of the overcurrent release  | TM210                       |
| 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  | 1 000 V                     |
| operating voltage / at AC / rated value  | 690 V                       |
| power loss [W] / maximum   | 25 W                        |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole                                | 8.2 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   | 4 000                       |
| electrical endurance (operating cycles) / at 480 V   | 8 000                       |
| electrical endurance (operating cycles) / at 600 V   | 4 000                       |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof                      | No                          |
| product function   |                             |
| • communication function   | No                          |
| • other measurement function   | No                          |
| Net Weight   | 2 800 g                     |
| Current  |                             |
| marking / according to UL 489 / 100%-rated breaker   | Yes                         |
| operational current  |                             |
| • at 40 °C   | 90 A                        |
| • at 45 °C   | 87.6 A                      |
| • at 50 °C   | 85.3 A                      |
| • at 55 °C   | 82.9 A                      |
| • at 60 °C   | 80.5 A                      |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• at 65 °C</li> <li>• at 70 °C</li> </ul>  | 78.2 A<br>75.8 A   |
| <b>Switching capacity according to IEC 60947</b>  |  |
| switching capacity class of the circuit breaker   | M  |
| maximum short-circuit current breaking capacity (I <sub>cu</sub> ) <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 690 V</li> </ul>                           | 85 kA<br>55 kA<br>7 kA   |
| operating short-circuit current breaking capacity (I <sub>cs</sub> ) <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 690 V</li> </ul>                         | 85 kA<br>55 kA<br>7 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 690 V</li> </ul>                                     | 187 kA<br>121 kA<br>11.9 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>Switching capacity according to UL 489</b>   |  |
| current breaking capacity <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 480 V</li> <li>• at 600 V</li> </ul>  | 85 kA<br>35 kA<br>18 kA  |
| <b>Adjustable parameters</b>  |  |
| adjustable response value setting current (I <sub>r</sub> ) / of the L-trip / with I <sup>2</sup> t characteristic <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul> | 90 A<br>90 A   |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sup>2</sup> t 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>                                       | 900 A<br>900 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   |
| design of the N-conductor protection  | Without  |
| 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]   | 7.28 in  |
| height  | 185 mm   |
| width [in]  | 5.51 in  |
| width   | 140 mm   |
| depth [in]  | 3.27 in  |
| depth   | 83 mm  |
| <b>Connections</b>  |  |
| arrangement of electrical connectors / for main current circuit   | Without connection   |
| type of electrical connection / for main current circuit  | Without  |
| 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                                |
| manufacturer's article number  |                                    |
| <ul style="list-style-type: none"> <li>of the supplied basic switch</li> </ul>   | <a href="#">3VA52905ED412AA0</a>   |
| <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 |
| reference code / according to IEC 81346-2  | Q                                  |
| <b>Approvals / Certificates</b>  |                                    |
| General Product Approval   |                                    |



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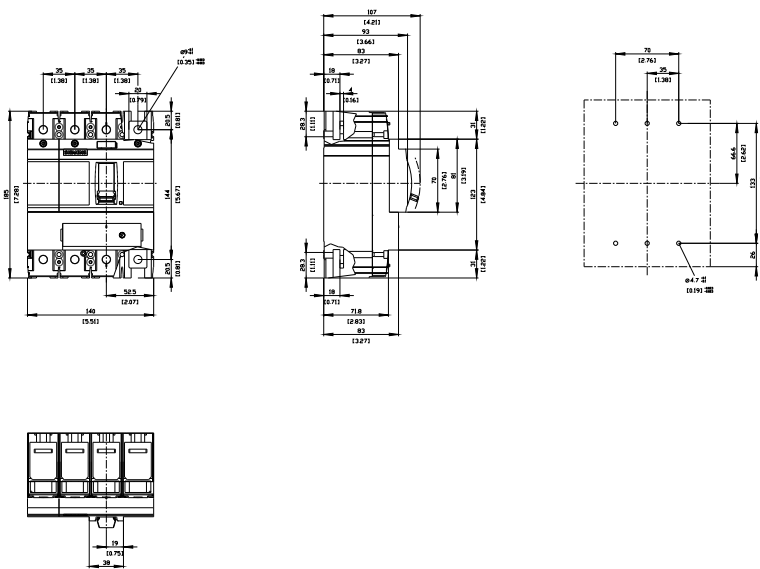
Miscellaneous



|                          |     |                               |   |
|--------------------------|-----|-------------------------------|---|
| General Product Approval | EMV | other                         | Environment                                 |
|                          |     | <a href="#">Confirmation</a>  | <a href="#">Environmental Confirmations</a> |
|                          | RCM | <a href="#">Miscellaneous</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=3VA5290-5ED41-2AA0>  
 Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<https://support.industry.siemens.com/cs/ww/en/ps/3VA5290-5ED41-2AA0>  
 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)  
[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA5290-5ED41-2AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5290-5ED41-2AA0)  
 CAx-Online-Generator  
<https://www.siemens.com/cax>  
 Tender specifications  
<https://www.siemens.com/specifications>





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