



CIRCUIT BREAKER 3VA5 UL Frame 600 3POLE, MOTOR STARTER PROTECTION TM120M, AM,  $I_n=600A$  WITHOUT OVERLOAD PROTECTION SHORT CIRCUIT PROTECTION  $I_i=5...10 \times I_n$  W/O CONNECTION

| Model                                                                                                                      |                             |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                                                         | SENTRON                     |
| product designation                                                                                                        | Molded-case circuit breaker |
| product designation / according to UL file                                                                                 | HLAP                        |
| design of the product                                                                                                      | Starter 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                                                                                          | TM120M                      |
| protection function of the overcurrent release                                                                             | I                           |
| number of poles                                                                                                            | 3                           |
| General technical data                                                                                                     |                             |
| insulation voltage / rated value                                                                                           | 800 V                       |
| operating voltage / at AC / rated value                                                                                    | 690 V                       |
| mechanical service life (operating cycles) / typical                                                                       | 20 000                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                                           | 4 000                       |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                                               | 2 700                       |
| electrical endurance (operating cycles) / at 480 V                                                                         | 4 000                       |
| electrical endurance (operating cycles) / at 600 V                                                                         | 2 700                       |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof                      | No                          |
| product function                                                                                                           |                             |
| • communication function                                                                                                   | No                          |
| • phase failure detection                                                                                                  | No                          |
| • other measurement function                                                                                               | No                          |
| Net Weight                                                                                                                 | 5.2 kg                      |
| Current                                                                                                                    |                             |
| marking / according to UL 489 / 100%-rated breaker                                                                         | No                          |
| operational current                                                                                                        |                             |
| • at 40 °C                                                                                                                 | 600 A                       |
| • at 45 °C                                                                                                                 | 587 A                       |
| • at 50 °C                                                                                                                 | 574 A                       |
| • at 55 °C                                                                                                                 | 560 A                       |
| • at 60 °C                                                                                                                 | 547 A                       |

|                                                                                                                                                                                              |                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| <ul style="list-style-type: none"> <li>• at 65 °C</li> <li>• at 70 °C</li> </ul>                                                                                                             | 534 A<br>521 A                     |
| <b>Switching capacity according to IEC 60947</b>                                                                                                                                             |                                    |
| 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>                                                                                         | 100 kA<br>70 kA<br>10 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>                                                                                         | 100 kA<br>70 kA<br>6 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>                                                                                         | 220 kA<br>154 kA<br>17 kA          |
| <b>Adjustable parameters</b>                                                                                                                                                                 |                                    |
| 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>                                                                                                               | 4 200 A<br>6 000 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                         |
| 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]                                                                                                                                                                                  | 9.76 in                            |
| height                                                                                                                                                                                       | 248 mm                             |
| width [in]                                                                                                                                                                                   | 5.43 in                            |
| width                                                                                                                                                                                        | 138 mm                             |
| depth [in]                                                                                                                                                                                   | 4.33 in                            |
| depth                                                                                                                                                                                        | 110 mm                             |
| <b>Connections</b>                                                                                                                                                                           |                                    |
| arrangement of electrical connectors / for main current circuit                                                                                                                              | Without connection                 |
| type of electrical connection / for main current circuit                                                                                                                                     | Without                            |
| <b>Auxiliary circuit</b>                                                                                                                                                                     |                                    |
| number of CO contacts / for auxiliary contacts                                                                                                                                               | 0                                  |
| <b>Accessories</b>                                                                                                                                                                           |                                    |
| product extension / optional / motor drive                                                                                                                                                   | Yes                                |
| <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>                                                                                                                                                              |                                    |
| <b>General Product Approval</b>                                                                                                                                                              |                                    |



[Miscellaneous](#)



[Miscellaneous](#)



General Product Approval

EMV

Test Certificates



[Confirmation](#)



EG-Konf.



[Type Test Certificates/Test Report](#)

Maritime application

other

Environment



[Miscellaneous](#)

[Confirmation](#)

[Environmental Confirmations](#)

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## 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=3VA5460-0MH31-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5460-0MH31-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA5460-0MH31-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5460-0MH31-0AA0)

CAX-Online-Generator

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

Tender specifications

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

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP='HAUPT'></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>)





