



circuit breaker 3VA5 UL frame 125 3-pole, starter protection TM120M, AM,  $I_n=70A$  without overload protection short-circuit protection  $I_i=3...7 \times I_n$  cable connection on both sides

### Model

|                                                                                                                            |                             |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                                                         | SENTRON                     |
| product designation                                                                                                        | Molded-case circuit breaker |
| product designation / according to UL file                                                                                 | HEAP                        |
| Product version                                                                                                            | 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    |
| power loss [W] / maximum                                                                       | 10.9 W   |
| Active power loss / for rated value of the current / at AC / in hot operating state / per pole | 3.63 W   |
| mechanical service life (switching cycles) / typical                                           | 20 000   |
| Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz                      | 8 000    |
| Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz                          | 4 000    |
| electrical endurance (switching cycles) / at 480 V                                             | 8 000    |
| electrical endurance (switching cycles) / at 600 V                                             | 4 000    |
| Neutral conductors / upgradeable/retrofitable                                                  | No       |
| ground-fault monitoring version                                                                | without  |
| product function                                                                               |          |
| • communication function                                                                       | No       |
| • phase failure detection                                                                      | No       |
| • other measurement function                                                                   | No       |
| Net Weight                                                                                     | 1.034 kg |

### Current

|                                                    |      |
|----------------------------------------------------|------|
| marking / according to UL 489 / 100%-rated breaker | No   |
| operational current                                |      |
| • at 40 °C                                         | 70 A |
| • at 45 °C                                         | 70 A |
| • at 50 °C                                         | 70 A |
| • at 55 °C                                         | 70 A |
| • at 60 °C                                         | 70 A |

|                                                                                                                               |                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at 65 °C</li> <li>• at 70 °C</li> </ul>                                              | 70 A<br>70 A                                                                                                                                                   |
| <b>Switching capacity according to IEC 60947</b>                                                                              |                                                                                                                                                                |
| breaking capacity maximum short-circuit current (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>                          | 150 kA<br>70 kA<br>10 kA                                                                                                                                       |
| breaking capacity operating short-circuit current (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>                          | 150 kA<br>70 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 690 V</li> </ul>                          | 330 kA<br>154 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 / selectable characteristic function                                                         | No                                                                                                                                                             |
| product feature / for S-tripping / independent of direction / selectable characteristic function                              | No                                                                                                                                                             |
| product feature / for I-tripping / can be switched on/off                                                                     | No                                                                                                                                                             |
| design of I-trip / adjustable                                                                                                 | Yes                                                                                                                                                            |
| reference value setting current (I <sub>i</sub> ) / for I-tripping                                                            | x I <sub>n</sub>                                                                                                                                               |
| set values setting current (I <sub>i</sub> ) / for I-tripping                                                                 | 3;4;5;6;7                                                                                                                                                      |
| adjustable response factor setting current (I <sub>i</sub> ) / for I-tripping / minimum                                       | 3                                                                                                                                                              |
| adjustable response factor setting current (I <sub>i</sub> ) / for I-tripping / maximum                                       | 7                                                                                                                                                              |
| adjustable response value setting current (I <sub>i</sub> ) / for I-tripping / minimum                                        | 210 A                                                                                                                                                          |
| adjustable response value setting current (I <sub>i</sub> ) / for I-tripping / maximum                                        | 490 A                                                                                                                                                          |
| product feature / for G-tripping / selectable characteristic function                                                         | No                                                                                                                                                             |
| product feature / with neutral conductor protection / can be switched on/off                                                  | No                                                                                                                                                             |
| product feature / with neutral conductor protection / adjustable                                                              | Yes                                                                                                                                                            |
| type of value list setting current (I <sub>nN</sub> ) / for N-tripping                                                        | St                                                                                                                                                             |
| reference value setting current (I <sub>nN</sub> ) / for N-tripping                                                           | x I <sub>n</sub>                                                                                                                                               |
| adjustable absolute value setting current (I <sub>nN</sub> ) / for N-tripping / minimum                                       | 0 A                                                                                                                                                            |
| adjustable absolute value setting current (I <sub>nN</sub> ) / for N-tripping / maximum                                       | 0 A                                                                                                                                                            |
| tripping characteristic / of the upper tolerance band                                                                         | AK_3VA5_1_70A_TM120M2_H_oT                                                                                                                                     |
| let-through energy characteristic / at 240 V                                                                                  | DE_3VA5_1_70A_TM_line u starter_3u4p_240V                                                                                                                      |
| let-through energy characteristic / at 415 V                                                                                  | DE_3VA5_1_70A_TM_line u starter_3u4p_415V                                                                                                                      |
| let-through energy characteristic / at 690 V                                                                                  | DE_3VA5_1_70A_TM_line u starter_3u4p_690V                                                                                                                      |
| type of value list setting current (I <sub>i</sub> ) / for I-tripping                                                         | St                                                                                                                                                             |
| tripping characteristic / of the let-through current characteristic / at 240 V                                                | DS_3VA5_1_70A_TM_line u starter_3u4p_240V                                                                                                                      |
| tripping characteristic / of the let-through current characteristic / at 415 V                                                | DS_3VA5_1_70A_TM_line u starter_3u4p_415V                                                                                                                      |
| tripping characteristic / of the let-through current characteristic / at 690 V                                                | DS_3VA5_1_70A_TM_line u starter_3u4p_690V                                                                                                                      |
| Ground fault protection / tripping switchable / I <sub>2t</sub> =ON/OFF                                                       | 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]                                                                                                                   | 5.51 in                                                                                                                                                        |
| Height                                                                                                                        | 140 mm                                                                                                                                                         |

|                                                                                 |                   |
|---------------------------------------------------------------------------------|-------------------|
| width [in]                                                                      | 3 in              |
| Type of connectable conductor cross-section, round conductor terminal, stranded | 1 x (8 AWG - 3/0) |
| Width                                                                           | 76.2 mm           |
| depth [in]                                                                      | 3.01 in           |
| depth                                                                           | 76.5 mm           |

#### Connections

|                                                                 |                                           |
|-----------------------------------------------------------------|-------------------------------------------|
| arrangement of electrical connectors / for main current circuit | Front connection                          |
| type of electrical connection / for main current circuit        | circular conductor terminal on both sides |

#### Auxiliary circuit

|                                                |   |
|------------------------------------------------|---|
| number of CO contacts / for auxiliary contacts | 0 |
|------------------------------------------------|---|

#### Accessories

|                                            |     |
|--------------------------------------------|-----|
| 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  |

#### Certificates

|                                                                                        |     |
|----------------------------------------------------------------------------------------|-----|
| reference code / according to IEC 81346-2                                              | Q   |
| certificate of suitability / as approval for NAVAL (no combat vessels) / supplement SB | Yes |

#### General Product Approval

#### EMC

#### Declaration of Conformity

[Confirmation](#)



[Miscellaneous](#)



#### Marine / Shipping

#### other



[Miscellaneous](#)

#### Further information

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=3VA5170-1MU36-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5170-1MU36-0AA0>

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

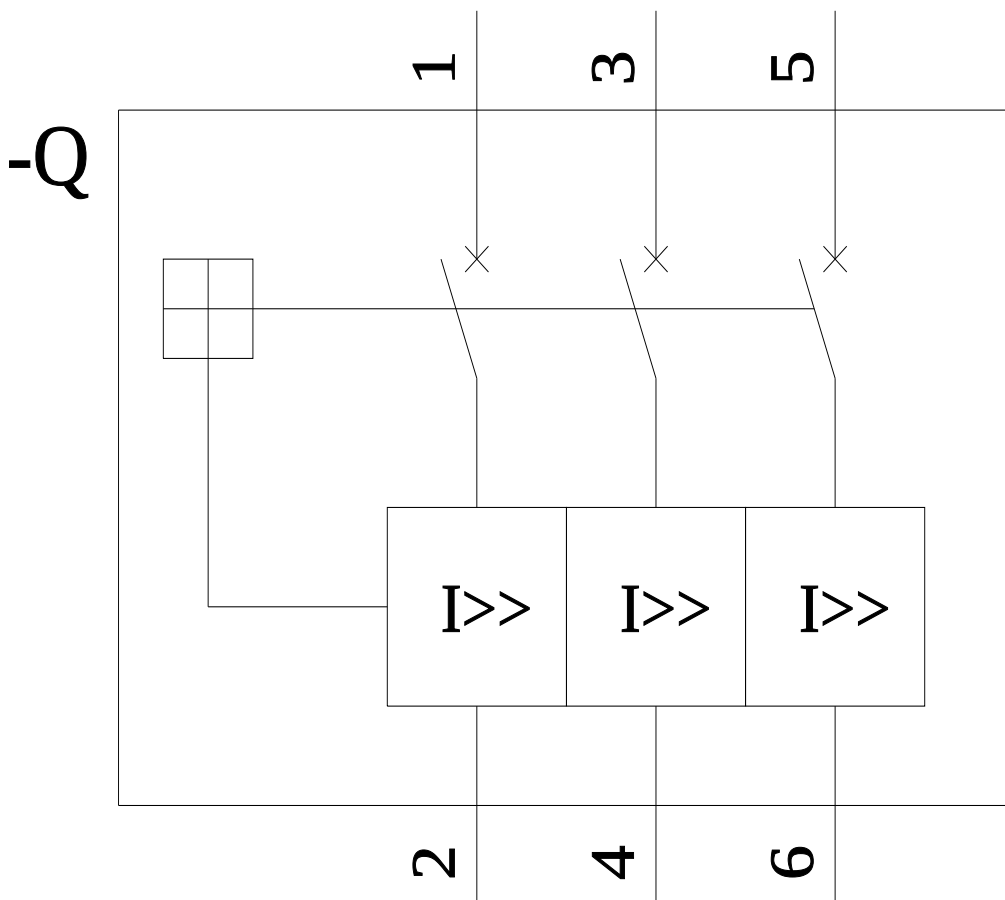
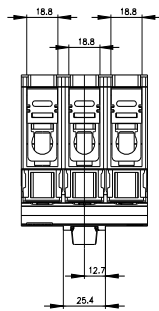
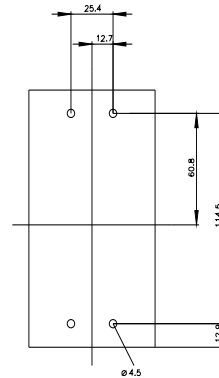
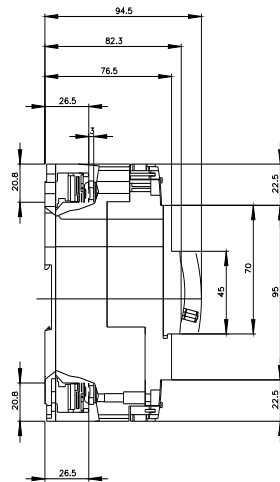
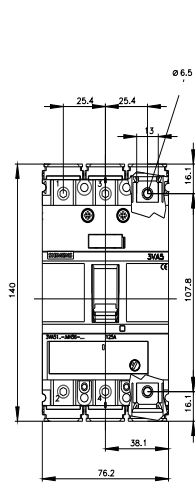
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA5170-1MU36-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5170-1MU36-0AA0)

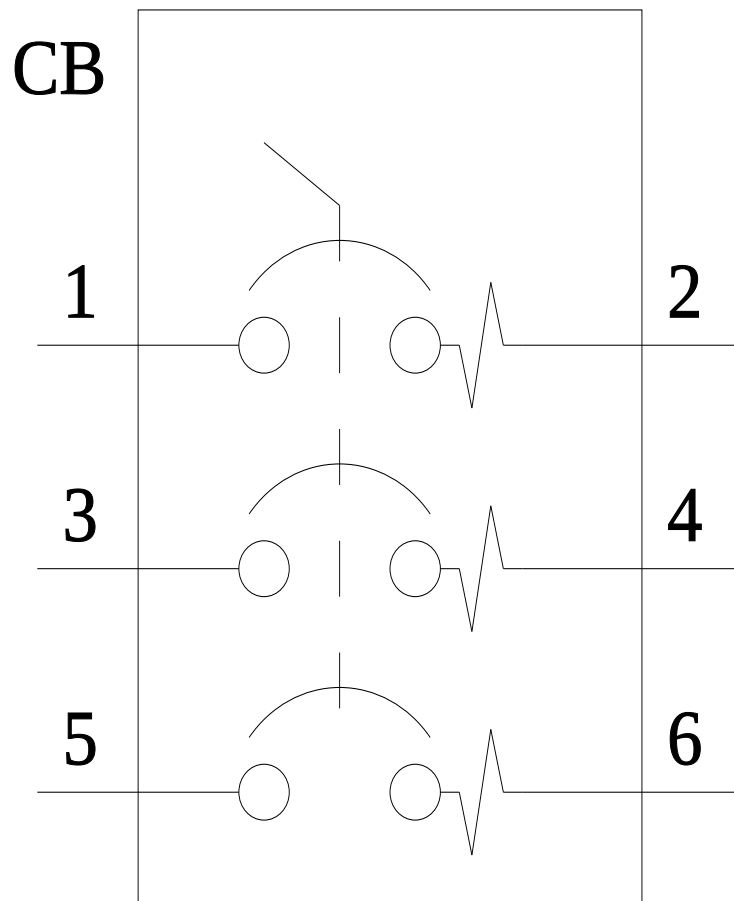
CAX-Online-Generator

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

Tender specifications

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





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