



circuit breaker 3VA5 UL Frame 125 breaking capacity class S 25 kA @ 480 V 4-pole, line protection TM210, FTFM,  $I_n=45$  A overload protection  $I_r=45$  A permanently set short-circuit protection  $I_i=10 \times I_n$  N conductor unprotected without connection

| Model                                                                                                                      |                             |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                                                         | SETRON                      |
| product designation                                                                                                        | Molded-case circuit breaker |
| product designation / according to UL file                                                                                 | SEAS                        |
| 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)                      | Yes                         |
| 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                                                                                    | 600 V                       |
| operating voltage / at AC / rated value                                                                                    | 690 V                       |
| power loss [W] / maximum                                                                                                   | 11.4 W                      |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole                                | 3.8 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                                                                                                                 | 952 g                       |
| Current                                                                                                                    |                             |
| marking / according to UL 489 / 100%-rated breaker                                                                         | No                          |
| operational current                                                                                                        |                             |
| • at 40 °C                                                                                                                 | 45 A                        |
| • at 45 °C                                                                                                                 | 44 A                        |

- at 50 °C
- at 55 °C
- at 60 °C
- at 65 °C
- at 70 °C

44 A  
43 A  
42 A  
42 A  
41 A

#### Switching capacity according to IEC 60947

|                                                                      |                                                                                                                                                                |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| switching capacity class of the circuit breaker                      | S                                                                                                                                                              |
| maximum short-circuit current breaking capacity (I <sub>cu</sub> )   |                                                                                                                                                                |
| • at 240 V                                                           | 55 kA                                                                                                                                                          |
| • at 415 V                                                           | 36 kA                                                                                                                                                          |
| • at 690 V                                                           | 5 kA                                                                                                                                                           |
| operating short-circuit current breaking capacity (I <sub>cs</sub> ) |                                                                                                                                                                |
| • at 240 V                                                           | 55 kA                                                                                                                                                          |
| • at 415 V                                                           | 36 kA                                                                                                                                                          |
| • at 690 V                                                           | 5 kA                                                                                                                                                           |
| short-circuit current making capacity (I <sub>cm</sub> )             |                                                                                                                                                                |
| • at 240 V                                                           | 121 kA                                                                                                                                                         |
| • at 415 V                                                           | 75.5 kA                                                                                                                                                        |
| • at 690 V                                                           | 7.5 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 |

#### Switching capacity according to UL 489

|                           |       |
|---------------------------|-------|
| current breaking capacity |       |
| • at 240 V                | 65 kA |
| • at 480 V                | 25 kA |
| • at 600 Y/347 V          | 14 kA |

#### Adjustable parameters

|                                                                                                                   |         |
|-------------------------------------------------------------------------------------------------------------------|---------|
| adjustable response value setting current (I <sub>r</sub> ) / of the L-trip / with I <sub>2t</sub> characteristic |         |
| • minimum                                                                                                         | 45 A    |
| • maximum                                                                                                         | 45 A    |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic     |         |
| • minimum                                                                                                         | 1 s     |
| • maximum                                                                                                         | 1 s     |
| adjustable response value setting current (I <sub>i</sub> ) / for I-tripping                                      |         |
| • minimum                                                                                                         | 450 A   |
| • maximum                                                                                                         | 450 A   |
| adjustable setting current (I <sub>nN</sub> ) / for N-tripping                                                    |         |
| • minimum                                                                                                         | 0 A     |
| • maximum                                                                                                         | 0 A     |
| design of the N-conductor protection                                                                              | Without |
| product function / grounding protection                                                                           | No      |

#### Mechanical Design

|                        |          |
|------------------------|----------|
| product component      |          |
| • undervoltage release | No       |
| • voltage trigger      | No       |
| • trip indicator       | No       |
| height [in]            | 5.51 in  |
| height                 | 140 mm   |
| width [in]             | 4 in     |
| width                  | 101.5 mm |
| depth [in]             | 3.01 in  |
| depth                  | 76.5 mm  |

#### Connections

|                                                                 |                    |
|-----------------------------------------------------------------|--------------------|
| arrangement of electrical connectors / for main current circuit | Without connection |
| type of electrical connection / for main current circuit        | Without            |

#### 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  |
| reference code / according to IEC 81346-2  | Q      |
| Approvals / Certificates                   |        |
| General Product Approval                   |        |



[Miscellaneous](#)



[Miscellaneous](#)

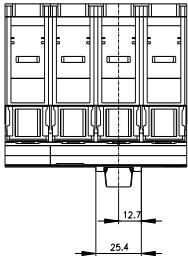


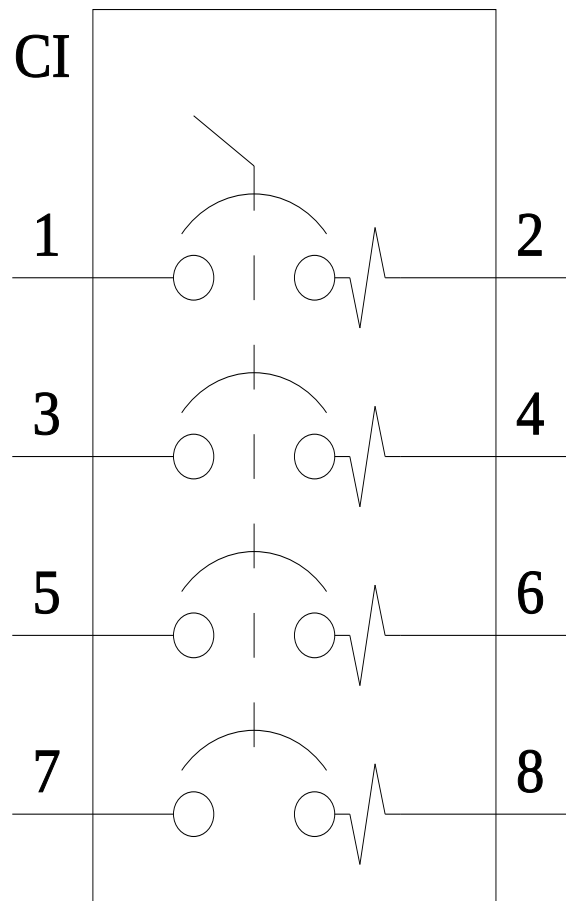
| General Product Approval                                                                                                                                                                                                                                                                                                                                                                                                                                   | EMV |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|  <a href="#">Confirmation</a>     |     |

| Test Certificates                                                                           | Maritime application                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Type Test Certificates/Test Report</a> <a href="#">Special Test Certificate</a> |     |

| Maritime application                                                                | other                         | Environment                                                                                                                                                    |
|-------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <a href="#">Miscellaneous</a> | <a href="#">Confirmation</a> <a href="#">Environmental Confirmations</a>  |

| Further information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <p>Information on the packaging<br/> <a href="https://support.industry.siemens.com/cs/ww/en/view/109813875">https://support.industry.siemens.com/cs/ww/en/view/109813875</a></p> <p>Information for data generation and storage<br/> <a href="https://support.industry.siemens.com/cs/ww/en/view/109995012">https://support.industry.siemens.com/cs/ww/en/view/109995012</a></p> <p>Information- and Downloadcenter (Catalogs, Brochures,...)<br/> <a href="https://www.siemens.com/lowvoltage/catalogs">https://www.siemens.com/lowvoltage/catalogs</a></p> <p>Industry Mall (Online ordering system)<br/> <a href="https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA5145-4ED41-0AA0">https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA5145-4ED41-0AA0</a></p> <p>Service&amp;Support (Manuals, Certificates, Characteristics, FAQs,...)<br/> <a href="https://support.industry.siemens.com/cs/ww/en/ps/3VA5145-4ED41-0AA0">https://support.industry.siemens.com/cs/ww/en/ps/3VA5145-4ED41-0AA0</a></p> <p>Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)<br/> <a href="https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5145-4ED41-0AA0">https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5145-4ED41-0AA0</a></p> <p>CAX-Online-Generator<br/> <a href="https://www.siemens.com/cax">https://www.siemens.com/cax</a></p> <p>Tender specifications<br/> <a href="https://www.siemens.com/specifications">https://www.siemens.com/specifications</a></p> <p>Characteristic curves<br/> <a href="https://curves.simar.siemens.com/curves/&lt;mmp_prod_noCOMP='HAUPT'&gt;&lt;/mmp_prod_no&gt;">https://curves.simar.siemens.com/curves/&lt;mmp_prod_noCOMP='HAUPT'&gt;&lt;/mmp_prod_no&gt;</a></p> |





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