



circuit breaker 3VA6 UL Frame 800 breaking capacity class C 100 kA @ 480 V 4-pole, line protection ETU820, LI,  $I_n=800$  A overload protection, 100% rated  $I_r=315$  A ...800 A short-circuit protection  $I_i=1.5...10 \times I_n$  neutral conductor protection adjustable (OFF, up to 100%) nut keeper kit

| Model                                                                                                                      |                             |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                                                         | SENTRON                     |
| product designation                                                                                                        | Molded-case circuit breaker |
| product designation / according to UL file                                                                                 | CMAE                        |
| 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 overcurrent release                                                                                          | ETU820                      |
| protection function of the overcurrent release                                                                             | LI                          |
| number of poles                                                                                                            | 4                           |
| General technical data                                                                                                     |                             |
| insulation voltage / rated value                                                                                           | 800 V                       |
| operating voltage / at AC / rated value                                                                                    | 690 V                       |
| power loss [W] / maximum                                                                                                   | 231 W                       |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole                                | 77 W                        |
| mechanical service life (operating cycles) / typical                                                                       | 10 000                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                                           | 5 800                       |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                                               | 4 000                       |
| electrical endurance (operating cycles) / at 480 V                                                                         | 5 800                       |
| electrical endurance (operating cycles) / at 600 V                                                                         | 4 000                       |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof                      | No                          |
| ground-fault monitoring version                                                                                            | without                     |
| product function                                                                                                           |                             |
| • communication function                                                                                                   | Yes                         |
| • other measurement function                                                                                               | Yes                         |
| Net Weight                                                                                                                 | 17.01 kg                    |
| Current                                                                                                                    |                             |
| marking / according to UL 489 / 100%-rated breaker                                                                         | Yes                         |
| operational current                                                                                                        |                             |
| • at 40 °C                                                                                                                 | 800 A                       |
| • at 45 °C                                                                                                                 | 800 A                       |
| • at 50 °C                                                                                                                 | 800 A                       |
| • at 55 °C                                                                                                                 | 776 A                       |
| • at 60 °C                                                                                                                 | 752 A                       |
| • at 65 °C                                                                                                                 | 708 A                       |
| • at 70 °C                                                                                                                 | 664 A                       |
| Switching capacity according to IEC 60947                                                                                  |                             |
| switching capacity class of the circuit breaker                                                                            | C                           |

|                                                                                                                   |                             |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------|
| maximum short-circuit current breaking capacity (I <sub>cu</sub> )                                                |                             |
| • at 240 V                                                                                                        | 200 kA                      |
| • at 415 V                                                                                                        | 110 kA                      |
| • at 690 V                                                                                                        | 35 kA                       |
| operating short-circuit current breaking capacity (I <sub>cs</sub> )                                              |                             |
| • at 240 V                                                                                                        | 150 kA                      |
| • at 415 V                                                                                                        | 85 kA                       |
| • at 690 V                                                                                                        | 19 kA                       |
| short-circuit current making capacity (I <sub>cm</sub> )                                                          |                             |
| • at 240 V                                                                                                        | 440 kA                      |
| • at 415 V                                                                                                        | 242 kA                      |
| • at 690 V                                                                                                        | 74 kA                       |
| <b>Switching capacity according to UL 489</b>                                                                     |                             |
| current breaking capacity                                                                                         |                             |
| • at 240 V                                                                                                        | 200 kA                      |
| • at 480 V                                                                                                        | 100 kA                      |
| • at 600 V                                                                                                        | 50 kA                       |
| <b>Adjustable parameters</b>                                                                                      |                             |
| adjustable response value setting current (I <sub>r</sub> ) / of the L-trip / with I <sub>2t</sub> characteristic |                             |
| • minimum                                                                                                         | 315 A                       |
| • maximum                                                                                                         | 800 A                       |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic     |                             |
| • minimum                                                                                                         | 0.5 s                       |
| • maximum                                                                                                         | 25 s                        |
| adjustable response value setting current (I <sub>i</sub> ) / for I-tripping                                      |                             |
| • minimum                                                                                                         | 1 200 A                     |
| • maximum                                                                                                         | 8 000 A                     |
| adjustable setting current (I <sub>nN</sub> ) / for N-tripping                                                    |                             |
| • minimum                                                                                                         | 160 A                       |
| • maximum                                                                                                         | 800 A                       |
| design of the N-conductor protection                                                                              | adjustable OFF; 20% to 100% |
| product function / grounding protection                                                                           | No                          |
| <b>Mechanical Design</b>                                                                                          |                             |
| product component                                                                                                 |                             |
| • undervoltage release                                                                                            | No                          |
| • voltage trigger                                                                                                 | No                          |
| • trip indicator                                                                                                  | No                          |
| height [in]                                                                                                       | 12.91 in                    |
| height                                                                                                            | 328 mm                      |
| width [in]                                                                                                        | 11.02 in                    |
| width                                                                                                             | 280 mm                      |
| depth [in]                                                                                                        | 4.72 in                     |
| depth                                                                                                             | 120 mm                      |
| <b>Connections</b>                                                                                                |                             |
| arrangement of electrical connectors / for main current circuit                                                   | Front connection            |
| 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                         | 20 x 4 mm                   |
| type of connectable conductor cross-sections / for flat-bar terminal connection / maximum                         | 50 x 28 mm                  |
| <b>Auxiliary circuit</b>                                                                                          |                             |
| number of CO contacts / for auxiliary contacts                                                                    | 0                           |
| <b>Accessories</b>                                                                                                |                             |
| product extension / optional / motor drive                                                                        | No                          |
| <b>Environmental conditions</b>                                                                                   |                             |
| 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

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## Approvals / Certificates

### General Product Approval



[Confirmation](#)



[Miscellaneous](#)

General Product Approval

EMV

Test Certificates

Maritime application

other



[Type Test Certificates/Test Report](#)



[Confirmation](#)

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Dangerous goods

Environment

[Transport Information](#)

[Environmental Confirmations](#)

## 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=3VA6580-7KL42-2AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6580-7KL42-2AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6580-7KL42-2AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6580-7KL42-2AA0)

CAX-Online-Generator

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

Tender specifications

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





