



circuit breaker 3VA6 UL Frame 800 breaking capacity class H 65 kA @ 480 V 4-pole, line protection ETU860, LSIG, In=600 A overload protection, 100% rated Ir=240 A ...600 A short-circuit protection Isd=0.6..12x In, li=1.5..12x In neutral conductor protection adjustable (OFF, up to 130%) ground-fault protection IG=0.2... 1xIn, tg=0.05-0.8s cable connection on two sides

| Model                                                                                                                      |                                             |
|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| product brand name                                                                                                         | SENTRON                                     |
| product designation                                                                                                        | Molded-case circuit breaker                 |
| product designation / according to UL file                                                                                 | HMAE                                        |
| 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                                                                                          | ETU860                                      |
| protection function of the overcurrent release                                                                             | LSIG                                        |
| 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                                                                                                   | 151 W                                       |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole                                | 50.33 W                                     |
| mechanical service life (operating cycles) / typical                                                                       | 10 000                                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                                           | 5 100                                       |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                                               | 3 500                                       |
| electrical endurance (operating cycles) / at 480 V                                                                         | 5 100                                       |
| electrical endurance (operating cycles) / at 600 V                                                                         | 3 500                                       |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof                      | No                                          |
| ground-fault monitoring version                                                                                            | Summation current formation L + N-conductor |
| product function                                                                                                           |                                             |
| • communication function                                                                                                   | Yes                                         |
| • other measurement function                                                                                               | Yes                                         |
| Net Weight                                                                                                                 | 20.089 kg                                   |
| Current                                                                                                                    |                                             |
| marking / according to UL 489 / 100%-rated breaker                                                                         | Yes                                         |
| operational current                                                                                                        |                                             |
| • at 40 °C                                                                                                                 | 600 A                                       |
| • at 45 °C                                                                                                                 | 600 A                                       |
| • at 50 °C                                                                                                                 | 600 A                                       |
| • at 55 °C                                                                                                                 | 600 A                                       |
| • at 60 °C                                                                                                                 | 600 A                                       |
| • at 65 °C                                                                                                                 | 555 A                                       |
| • at 70 °C                                                                                                                 | 510 A                                       |
| Switching capacity according to IEC 60947                                                                                  |                                             |
| switching capacity class of the circuit breaker                                                                            | H                                           |

|                                                                      |        |
|----------------------------------------------------------------------|--------|
| maximum short-circuit current breaking capacity (I <sub>cu</sub> )   |        |
| • at 240 V                                                           | 110 kA |
| • at 415 V                                                           | 85 kA  |
| • at 690 V                                                           | 35 kA  |
| operating short-circuit current breaking capacity (I <sub>cs</sub> ) |        |
| • at 240 V                                                           | 110 kA |
| • at 415 V                                                           | 85 kA  |
| • at 690 V                                                           | 19 kA  |
| short-circuit current making capacity (I <sub>cm</sub> )             |        |
| • at 240 V                                                           | 242 kA |
| • at 415 V                                                           | 187 kA |
| • at 690 V                                                           | 74 kA  |

#### Switching capacity according to UL 489

|                           |        |
|---------------------------|--------|
| current breaking capacity |        |
| • at 240 V                | 150 kA |
| • at 480 V                | 65 kA  |
| • at 600 V                | 35 kA  |

#### Adjustable parameters

|                                                                                                                    |         |
|--------------------------------------------------------------------------------------------------------------------|---------|
| adjustable response value setting current (I <sub>r</sub> ) / of the L-trip / with I <sub>2t</sub> characteristic  |         |
| • minimum                                                                                                          | 250 A   |
| • maximum                                                                                                          | 600 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>sd</sub> ) / of S-trip / with I <sub>0t</sub> characteristic     |         |
| • minimum                                                                                                          | 360 A   |
| • maximum                                                                                                          | 7 200 A |
| adjustable response value setting current (I <sub>sd</sub> ) / of S-trip / with I <sub>2t</sub> characteristic     |         |
| • minimum                                                                                                          | 360 A   |
| • maximum                                                                                                          | 7 200 A |
| adjustable response value delay time (t <sub>sd</sub> ) / for S-tripping / with I <sub>0t</sub> characteristic     |         |
| • minimum                                                                                                          | 0.05 s  |
| • maximum                                                                                                          | 0.5 s   |
| adjustable response value delay time (t <sub>sd</sub> ) / for S-tripping / with I <sub>2t</sub> characteristic     |         |
| • minimum                                                                                                          | 0.05 s  |
| • maximum                                                                                                          | 0.5 s   |
| adjustable response value setting current (I <sub>i</sub> ) / for I-tripping                                       |         |
| • minimum                                                                                                          | 900 A   |
| • maximum                                                                                                          | 7 200 A |
| adjustable current response value current / for G-tripping / with standard characteristic                          |         |
| • initial value                                                                                                    | 120 A   |
| • full-scale value                                                                                                 | 600 A   |
| adjustable response value delay time (t <sub>g</sub> ) / for G-tripping / with I <sub>0t</sub> characteristic      |         |
| • minimum                                                                                                          | 0.05 s  |
| • maximum                                                                                                          | 0.8 s   |
| adjustable response value setting current (I <sub>g</sub> ) / for G-tripping / with I <sub>2t</sub> characteristic |         |
| • minimum                                                                                                          | 120 A   |
| • maximum                                                                                                          | 600 A   |
| adjustable response value delay time (t <sub>g</sub> ) / for G-tripping / with I <sub>2t</sub> characteristic      |         |
| • minimum                                                                                                          | 0.05 s  |
| • maximum                                                                                                          | 0.8 s   |
| adjustable setting current (I <sub>nN</sub> ) / for N-tripping                                                     |         |

|                                         |                             |
|-----------------------------------------|-----------------------------|
| • minimum                               | 120 A                       |
| • maximum                               | 800 A                       |
| design of the N-conductor protection    | adjustable OFF; 20% to 130% |
| product function / grounding protection | Yes                         |

#### Mechanical Design

|                                                                                           |                       |
|-------------------------------------------------------------------------------------------|-----------------------|
| product component                                                                         |                       |
| • undervoltage release                                                                    | No                    |
| • voltage trigger                                                                         | No                    |
| • trip indicator                                                                          | No                    |
| height [in]                                                                               | 12.91 in              |
| height                                                                                    | 328 mm                |
| width [in]                                                                                | 11.02 in              |
| type of connectable conductor cross-sections / of the round conductor terminal / stranded | 2 x (4/0 - 600 kcmil) |
| width                                                                                     | 280 mm                |
| depth [in]                                                                                | 4.72 in               |
| depth                                                                                     | 120 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 | No |
|--------------------------------------------|----|

#### 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



[Confirmation](#)



[Miscellaneous](#)



| EMV | Test Certificates | Maritime application | other | Dangerous goods |
|-----|-------------------|----------------------|-------|-----------------|
|-----|-------------------|----------------------|-------|-----------------|



[Type Test Certificates/Test Report](#)



[Confirmation](#)

[Miscellaneous](#)

[Transport Information](#)

#### Environment

[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=3VA6560-6KQ46-2AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6560-6KQ46-2AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6560-6KQ46-2AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6560-6KQ46-2AA0)

CAX-Online-Generator

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

Tender specifications

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





