



circuit breaker 3VA6 UL Frame 1000 breaking capacity class M 35 kA @ 480 V 3-pole, line protection ETU860, LSIG,  $I_n=1000$  A overload protection  $I_r=400$  A ...1000 A short-circuit protection  $I_{sd}=0.6..10 \times I_n$ ,  $I_i=1.5..10 \times I_n$  neutral conductor protection optionally with ext. CT up to 160% ground-fault protection  $I_G=0.2...1 \times I_n$ ,  $t_g=0.05-0.8$ s cable connection on two sides

| Model                                                                                                                      |                                         |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| product brand name                                                                                                         | SENTRON                                 |
| product designation                                                                                                        | Molded-case circuit breaker             |
| product designation / according to UL file                                                                                 | MMNAE                                   |
| 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                                                                                                            | 3                                       |
| General technical data                                                                                                     |                                         |
| insulation voltage / rated value                                                                                           | 800 V                                   |
| operating voltage / at AC / rated value                                                                                    | 690 V                                   |
| power loss [W] / maximum                                                                                                   | 330 W                                   |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole                                | 110 W                                   |
| mechanical service life (operating cycles) / typical                                                                       | 10 000                                  |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                                           | 4 900                                   |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                                               | 3 400                                   |
| electrical endurance (operating cycles) / at 480 V                                                                         | 4 900                                   |
| electrical endurance (operating cycles) / at 600 V                                                                         | 3 400                                   |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof                      | Yes                                     |
| ground-fault monitoring version                                                                                            | Summation current formation L-conductor |
| product function                                                                                                           |                                         |
| • communication function                                                                                                   | Yes                                     |
| • other measurement function                                                                                               | Yes                                     |
| Net Weight                                                                                                                 | 17.755 kg                               |
| Current                                                                                                                    |                                         |
| marking / according to UL 489 / 100%-rated breaker                                                                         | No                                      |
| operational current                                                                                                        |                                         |
| • at 40 °C                                                                                                                 | 1 000 A                                 |
| • at 45 °C                                                                                                                 | 940 A                                   |
| • at 50 °C                                                                                                                 | 880 A                                   |
| • at 55 °C                                                                                                                 | 840 A                                   |
| • at 60 °C                                                                                                                 | 800 A                                   |
| • at 65 °C                                                                                                                 | 750 A                                   |
| • at 70 °C                                                                                                                 | 700 A                                   |
| Switching capacity according to IEC 60947                                                                                  |                                         |
| switching capacity class of the circuit breaker                                                                            | M                                       |

|                                                                |        |
|----------------------------------------------------------------|--------|
| maximum short-circuit current breaking capacity ( $I_{cu}$ )   |        |
| • at 240 V                                                     | 85 kA  |
| • at 415 V                                                     | 55 kA  |
| • at 690 V                                                     | 25 kA  |
| operating short-circuit current breaking capacity ( $I_{cs}$ ) |        |
| • at 240 V                                                     | 85 kA  |
| • at 415 V                                                     | 55 kA  |
| • at 690 V                                                     | 19 kA  |
| short-circuit current making capacity ( $I_{cm}$ )             |        |
| • at 240 V                                                     | 187 kA |
| • at 415 V                                                     | 121 kA |
| • at 690 V                                                     | 53 kA  |

#### Switching capacity according to UL 489

|                           |        |
|---------------------------|--------|
| current breaking capacity |        |
| • at 240 V                | 100 kA |
| • at 480 V                | 35 kA  |
| • at 600 V                | 25 kA  |

#### Adjustable parameters

|                                                                                                     |          |
|-----------------------------------------------------------------------------------------------------|----------|
| adjustable response value setting current ( $I_r$ ) / of the L-trip / with $I_{2t}$ characteristic  |          |
| • minimum                                                                                           | 400 A    |
| • maximum                                                                                           | 1 000 A  |
| adjustable response value delay time ( $t_r$ ) / for L-tripping / with $I_{2t}$ characteristic      |          |
| • minimum                                                                                           | 0.5 s    |
| • maximum                                                                                           | 25 s     |
| adjustable response value setting current ( $I_{sd}$ ) / of S-trip / with $I_{0t}$ characteristic   |          |
| • minimum                                                                                           | 600 A    |
| • maximum                                                                                           | 10 000 A |
| adjustable response value setting current ( $I_{sd}$ ) / of S-trip / with $I_{2t}$ characteristic   |          |
| • minimum                                                                                           | 600 A    |
| • maximum                                                                                           | 10 000 A |
| adjustable response value delay time ( $t_{sd}$ ) / for S-tripping / with $I_{0t}$ characteristic   |          |
| • minimum                                                                                           | 0.05 s   |
| • maximum                                                                                           | 0.5 s    |
| adjustable response value delay time ( $t_{sd}$ ) / for S-tripping / with $I_{2t}$ characteristic   |          |
| • minimum                                                                                           | 0.05 s   |
| • maximum                                                                                           | 0.5 s    |
| adjustable response value setting current ( $I_i$ ) / for I-tripping                                |          |
| • minimum                                                                                           | 1 500 A  |
| • maximum                                                                                           | 10 000 A |
| adjustable current response value current / for G-tripping / with standard characteristic           |          |
| • initial value                                                                                     | 200 A    |
| • full-scale value                                                                                  | 1 000 A  |
| adjustable response value delay time ( $t_g$ ) / for G-tripping / with $I_{0t}$ characteristic      |          |
| • minimum                                                                                           | 0.05 s   |
| • maximum                                                                                           | 0.8 s    |
| adjustable response value setting current ( $I_g$ ) / for G-tripping / with $I_{2t}$ characteristic |          |
| • minimum                                                                                           | 200 A    |
| • maximum                                                                                           | 1 000 A  |
| adjustable response value delay time ( $t_g$ ) / for G-tripping / with $I_{2t}$ characteristic      |          |
| • minimum                                                                                           | 0.05 s   |
| • maximum                                                                                           | 0.8 s    |
| adjustable setting current ( $I_{nN}$ ) / for N-tripping                                            |          |

|                                         |                             |
|-----------------------------------------|-----------------------------|
| • minimum                               | 0 A                         |
| • maximum                               | 0 A                         |
| design of the N-conductor protection    | adjustable OFF; 20% to 160% |
| 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]                                                                                | 8.27 in               |
| type of connectable conductor cross-sections / of the round conductor terminal / stranded | 4 x (4/0 - 500 kcmil) |
| width                                                                                     | 210 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](#)



##### General Product Approval

##### EMV

##### Test Certificates

##### Maritime application

[Miscellaneous](#)



[Type Test Certificates/Test Report](#)



##### Maritime application

##### other

##### Dangerous goods



[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=3VA6610-5KQ36-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6610-5KQ36-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6610-5KQ36-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6610-5KQ36-0AA0)

### CAX-Online-Generator

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

### Tender specifications

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





