



circuit breaker 3VA6 UL Frame 1000 breaking capacity class H 65 kA @ 480 V 4-pole, line protection ETU320, LI, In=1000 A overload protection Ir=400 A ...1000 A short-circuit protection li=1.5...12 x In neutral conductor protection adjustable (OFF, 50%, 100%) cable connection on two sides

| Model                                                                                                                      |                             |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                                                         | SETRON                      |
| product designation                                                                                                        | Molded-case circuit breaker |
| product designation / according to UL file                                                                                 | HMNAE                       |
| 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                                                                                          | ETU320                      |
| 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                                                                                                   | 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                      | No                          |
| ground-fault monitoring version                                                                                            | without                     |
| product function                                                                                                           |                             |
| • communication function                                                                                                   | No                          |
| • other measurement function                                                                                               | No                          |
| Net Weight                                                                                                                 | 23.298 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                                                                            | 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                                     |
| <b>Switching capacity according to UL 489</b>                                                                     |                                           |
| current breaking capacity                                                                                         |                                           |
| • at 240 V                                                                                                        | 150 kA                                    |
| • at 480 V                                                                                                        | 65 kA                                     |
| • at 600 V                                                                                                        | 35 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                                                                                                         | 400 A                                     |
| • maximum                                                                                                         | 1 000 A                                   |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic     |                                           |
| • minimum                                                                                                         | 0.5 s                                     |
| • maximum                                                                                                         | 17 s                                      |
| adjustable response value setting current (I <sub>i</sub> ) / for I-tripping                                      |                                           |
| • minimum                                                                                                         | 1 500 A                                   |
| • maximum                                                                                                         | 10 000 A                                  |
| adjustable setting current (I <sub>n</sub> ) / for N-tripping                                                     |                                           |
| • minimum                                                                                                         | 500 A                                     |
| • maximum                                                                                                         | 1 000 A                                   |
| design of the N-conductor protection                                                                              | adjustable OFF; 50%; 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                                  |
| type of connectable conductor cross-sections / of the round conductor terminal / stranded                         | 4 x (4/0 - 500 kcmil)                     |
| 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                                                          | circular conductor terminal on both sides |
| <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
- during storage / maximum

-40 °C

80 °C

reference code / according to IEC 81346-2

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## Approvals / Certificates

### General Product Approval



[Miscellaneous](#)

### General Product Approval

#### EMV

#### Test Certificates

#### Maritime application



[Type Test Certificates/Test Report](#)



### Maritime application

#### other

#### Dangerous goods

#### Environment



[Confirmation](#)

[Miscellaneous](#)

[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=3VA6610-6HL46-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6610-6HL46-0AA0>

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

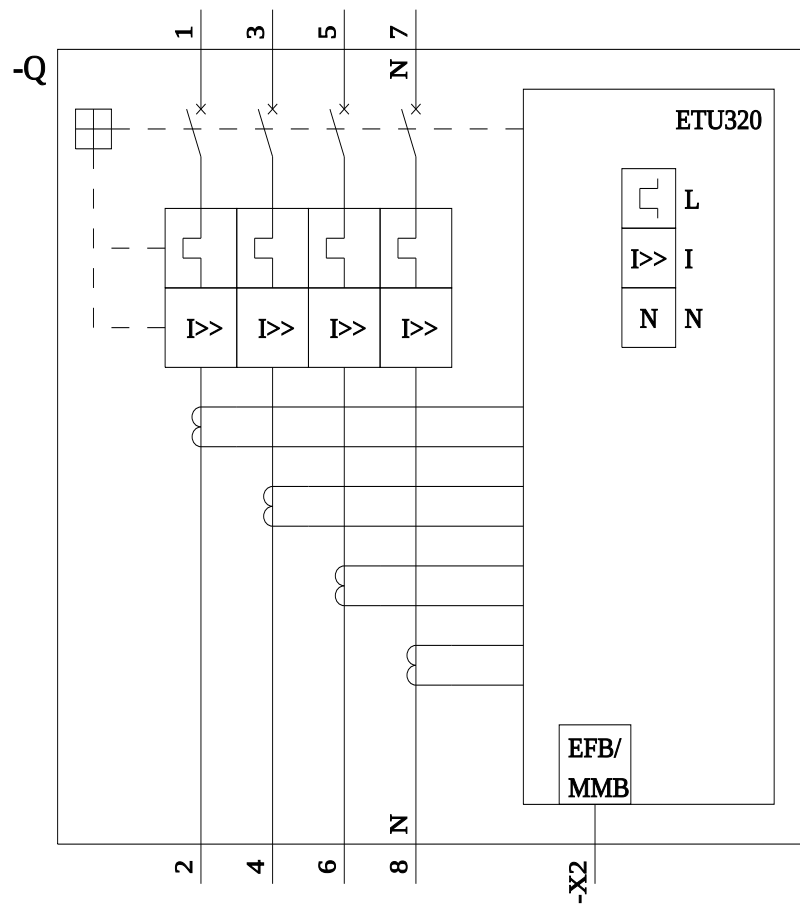
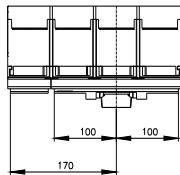
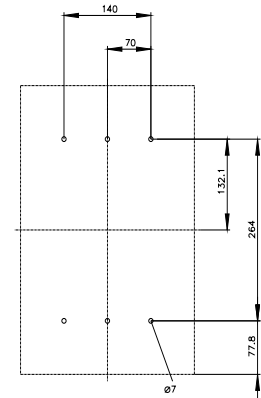
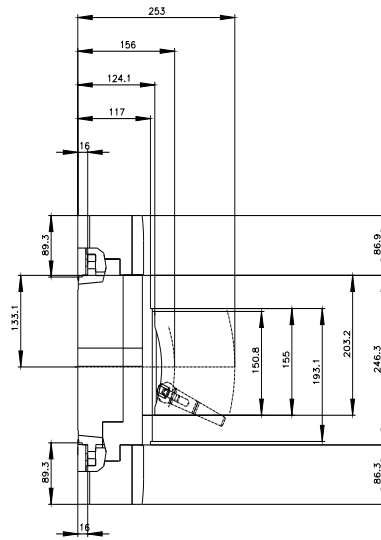
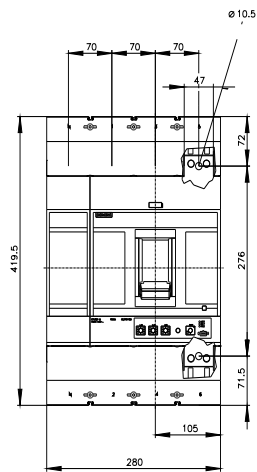
[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6610-6HL46-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6610-6HL46-0AA0)

### CAX-Online-Generator

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

### Tender specifications

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





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