



circuit breaker 3VA6 UL frame 1600 breaking capacity class M 35kA @ 480 V 3-pole, line protection ETU330, LIG,  $I_n=1600A$  100%-rated, overload protection  $I_r=600A - 1600A$  short circuit protection  $I_i=1,5-7,5 \times I_n$  ground fault protection  $I_g=0,156 - 1 \times I_n$ ,  $t_g=0,1/0,3s$  w/o connection

| Model                                                                                                                      |                                             |
|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| product brand name                                                                                                         | SETRON                                      |
| product designation                                                                                                        | Molded-case circuit breaker                 |
| product designation / according to UL file                                                                                 | MPAE                                        |
| 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                                                                                          | ETU330                                      |
| protection function of the overcurrent release                                                                             | LIG                                         |
| number of poles                                                                                                            | 3                                           |
| General technical data                                                                                                     |                                             |
| insulation voltage / rated value                                                                                           | 800 V                                       |
| operating voltage / at AC / rated value                                                                                    | 600 V                                       |
| power loss [W] / maximum                                                                                                   | 433 W                                       |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole                                | 433 W                                       |
| mechanical service life (operating cycles) / typical                                                                       | 3 000                                       |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                                           | 1 500                                       |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                                               | 500                                         |
| electrical endurance (operating cycles) / at 480 V                                                                         | 1 500                                       |
| electrical endurance (operating cycles) / at 600 V                                                                         | 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                                                                                                   | No                                          |
| • other measurement function                                                                                               | No                                          |
| Net Weight                                                                                                                 | 3.133 kg                                    |
| Current                                                                                                                    |                                             |
| marking / according to UL 489 / 100%-rated breaker                                                                         | Yes                                         |
| operational current                                                                                                        |                                             |
| • at 40 °C                                                                                                                 | 1 600 A                                     |
| • at 45 °C                                                                                                                 | 1 600 A                                     |
| • at 50 °C                                                                                                                 | 1 600 A                                     |
| • at 55 °C                                                                                                                 | 1 568 A                                     |
| • at 60 °C                                                                                                                 | 1 536 A                                     |
| • at 65 °C                                                                                                                 | 1 504 A                                     |
| • at 70 °C                                                                                                                 | 1 472 A                                     |
| Switching capacity according to IEC 60947                                                                                  |                                             |
| switching capacity class of the circuit breaker                                                                            | M                                           |

|                                                                                                                   |                   |
|-------------------------------------------------------------------------------------------------------------------|-------------------|
| maximum short-circuit current breaking capacity (I <sub>cu</sub> )                                                |                   |
| • at 240 V                                                                                                        | 65 kA             |
| • at 415 V                                                                                                        | 50 kA             |
| • at 690 V                                                                                                        | 20 kA             |
| operating short-circuit current breaking capacity (I <sub>cs</sub> )                                              |                   |
| • at 240 V                                                                                                        | 35 kA             |
| • at 415 V                                                                                                        | 25 kA             |
| • at 690 V                                                                                                        | 15 kA             |
| short-circuit current making capacity (I <sub>cm</sub> )                                                          |                   |
| • at 240 V                                                                                                        | 143 kA            |
| • at 415 V                                                                                                        | 105 kA            |
| • at 690 V                                                                                                        | 63 kA             |
| <b>Switching capacity according to UL 489</b>                                                                     |                   |
| current breaking capacity                                                                                         |                   |
| • at 240 V                                                                                                        | 85 kA             |
| • at 480 V                                                                                                        | 35 kA             |
| • at 600 V                                                                                                        | 25 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                                                                                                         | 600 A             |
| • maximum                                                                                                         | 1 600 A           |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic     |                   |
| • minimum                                                                                                         | 2.5 s             |
| • maximum                                                                                                         | 30 s              |
| adjustable response value setting current (I <sub>l</sub> ) / for I-tripping                                      |                   |
| • minimum                                                                                                         | 2 400 A           |
| • maximum                                                                                                         | 12 000 A          |
| adjustable current response value current / for G-tripping / with standard characteristic                         |                   |
| • initial value                                                                                                   | 320 A             |
| • full-scale value                                                                                                | 1 200 A           |
| adjustable response value delay time (t <sub>g</sub> ) / for G-tripping / with I <sub>0t</sub> characteristic     |                   |
| • minimum                                                                                                         | 0.1 s             |
| • maximum                                                                                                         | 0.3 s             |
| product function / grounding protection                                                                           | Yes               |
| <b>Mechanical Design</b>                                                                                          |                   |
| product component                                                                                                 |                   |
| • undervoltage release                                                                                            | No                |
| • trip indicator                                                                                                  | No                |
| height [in]                                                                                                       | 8.14 in           |
| height                                                                                                            | 206.9 mm          |
| width [in]                                                                                                        | 8.99 in           |
| width                                                                                                             | 228.4 mm          |
| depth [in]                                                                                                        | 16 in             |
| depth                                                                                                             | 406.4 mm          |
| <b>Connections</b>                                                                                                |                   |
| type of electrical connection / for main current circuit                                                          | without terminals |
| design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)                                | silver            |
| design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)                             | silver            |
| <b>Auxiliary circuit</b>                                                                                          |                   |
| number of CO contacts / for auxiliary contacts                                                                    | 0                 |
| <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](#)

[Miscellaneous](#)

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=3VA6816-5HM31-2AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6816-5HM31-2AA0>

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

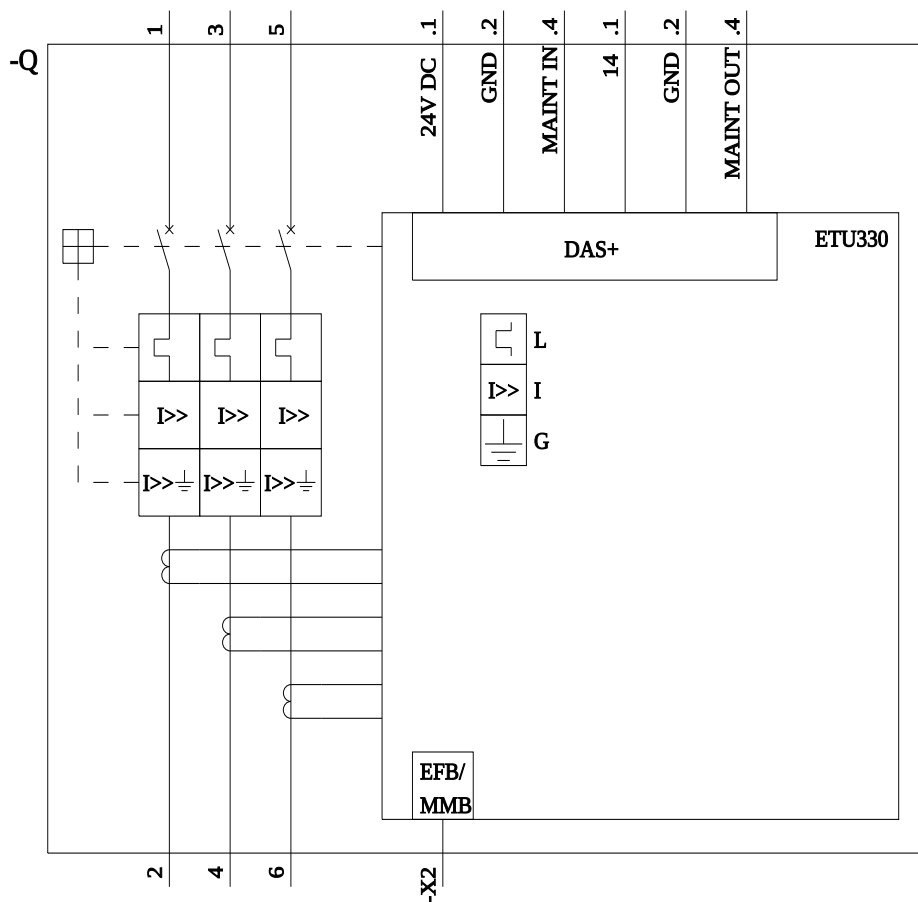
[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6816-5HM31-2AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6816-5HM31-2AA0)

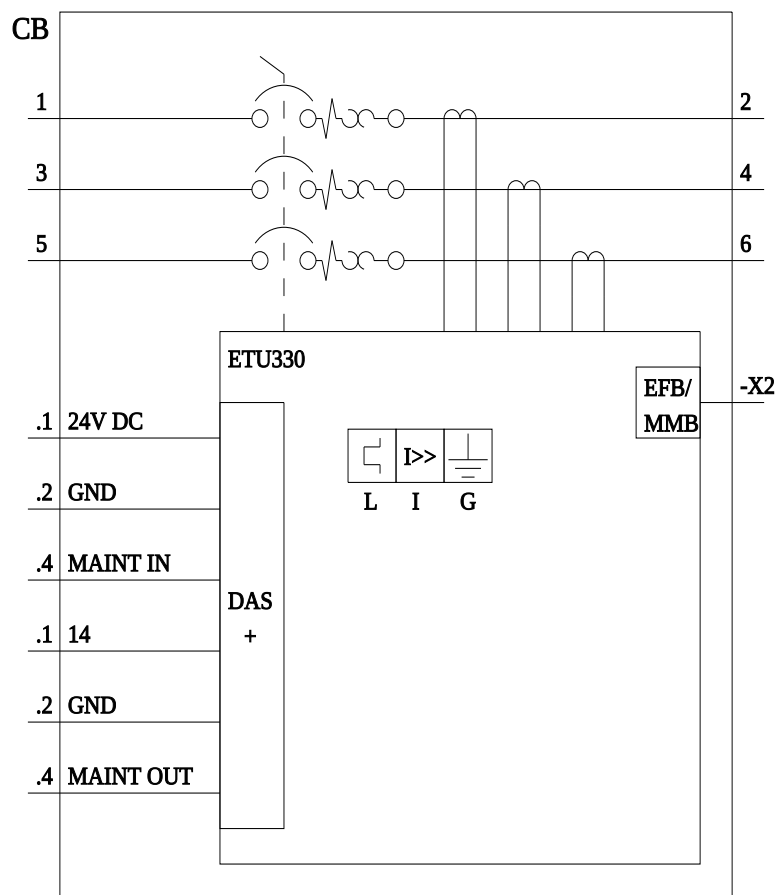
CAX-Online-Generator

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

Tender specifications

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





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