

**Siemens**  
**EcoTech**



circuit breaker 3VA6 UL Frame 250 breaking capacity class M 35 kA @ 480 V 3-pole, line protection ETU820, LI, In=250 A overload protection, 100% rated Ir=100 A...250 A short-circuit protection Ii=1.5...10 x In without connection



| Model                                                                                                                      |                             |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                                                         | SENTRON                     |
| product designation                                                                                                        | Molded-case circuit breaker |
| product designation / according to UL file                                                                                 | MFAE                        |
| 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                                                                                                            | 3                           |
| General technical data                                                                                                     |                             |
| insulation voltage / rated value                                                                                           | 800 V                       |
| operating voltage / at AC / rated value                                                                                    | 690 V                       |
| power loss [W] / maximum                                                                                                   | 42 W                        |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole                                | 14 W                        |
| mechanical service life (operating cycles) / typical                                                                       | 25 000                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                                           | 12 000                      |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                                               | 8 400                       |
| electrical endurance (operating cycles) / at 480 V                                                                         | 12 000                      |
| electrical endurance (operating cycles) / at 600 V                                                                         | 8 400                       |
| 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                                                                                                                 | 2.3 kg                      |
| Current                                                                                                                    |                             |
| marking / according to UL 489 / 100%-rated breaker                                                                         | Yes                         |
| operational current                                                                                                        |                             |
| • at 40 °C                                                                                                                 | 250 A                       |
| • at 45 °C                                                                                                                 | 250 A                       |
| • at 50 °C                                                                                                                 | 250 A                       |
| • at 55 °C                                                                                                                 | 238 A                       |
| • at 60 °C                                                                                                                 | 225 A                       |
| • at 65 °C                                                                                                                 | 213 A                       |

|                                                                                                                   |                    |
|-------------------------------------------------------------------------------------------------------------------|--------------------|
| • at 70 °C                                                                                                        | 200 A              |
| <b>Switching capacity according to IEC 60947</b>                                                                  |                    |
| switching capacity class of the circuit breaker                                                                   | M                  |
| maximum short-circuit current breaking capacity (I <sub>cu</sub> )                                                |                    |
| • at 240 V                                                                                                        | 85 kA              |
| • at 415 V                                                                                                        | 55 kA              |
| • at 690 V                                                                                                        | 3 kA               |
| operating short-circuit current breaking capacity (I <sub>cs</sub> )                                              |                    |
| • at 240 V                                                                                                        | 85 kA              |
| • at 415 V                                                                                                        | 55 kA              |
| • at 690 V                                                                                                        | 3 kA               |
| short-circuit current making capacity (I <sub>cm</sub> )                                                          |                    |
| • at 240 V                                                                                                        | 187 kA             |
| • at 415 V                                                                                                        | 121 kA             |
| • at 690 V                                                                                                        | 4.5 kA             |
| <b>Switching capacity according to UL 489</b>                                                                     |                    |
| current breaking capacity                                                                                         |                    |
| • at 240 V                                                                                                        | 100 kA             |
| • at 480 V                                                                                                        | 35 kA              |
| • at 600 V                                                                                                        | 18 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                                                                                                         | 100 A              |
| • maximum                                                                                                         | 250 A              |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic     |                    |
| • minimum                                                                                                         | 0.5 s              |
| • maximum                                                                                                         | 13 s               |
| adjustable response value setting current (I <sub>i</sub> ) / for I-tripping                                      |                    |
| • minimum                                                                                                         | 375 A              |
| • maximum                                                                                                         | 2 500 A            |
| adjustable setting current (I <sub>n</sub> ) / for N-tripping                                                     |                    |
| • minimum                                                                                                         | 0 A                |
| • maximum                                                                                                         | 0 A                |
| product function / grounding protection                                                                           | No                 |
| <b>Mechanical Design</b>                                                                                          |                    |
| product component                                                                                                 |                    |
| • undervoltage release                                                                                            | No                 |
| • voltage trigger                                                                                                 | No                 |
| • trip indicator                                                                                                  | No                 |
| height [in]                                                                                                       | 7.8 in             |
| height                                                                                                            | 198 mm             |
| width [in]                                                                                                        | 4.13 in            |
| width                                                                                                             | 105 mm             |
| depth [in]                                                                                                        | 3.39 in            |
| depth                                                                                                             | 86 mm              |
| <b>Connections</b>                                                                                                |                    |
| arrangement of electrical connectors / for main current circuit                                                   | Without connection |
| type of electrical connection / for main current circuit                                                          | Without            |
| <b>Auxiliary circuit</b>                                                                                          |                    |
| number of CO contacts / for auxiliary contacts                                                                    | 0                  |
| <b>Accessories</b>                                                                                                |                    |
| product extension / optional / motor drive                                                                        | Yes                |
| <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

#### Environmental footprint

|                                                          |                 |
|----------------------------------------------------------|-----------------|
| Environmental Product Declaration(EPD)                   | Yes             |
| global warming potential [CO2 eq] / total                | 61.814 kg       |
| global warming potential [CO2 eq] / during manufacturing | 14.6 kg         |
| global warming potential [CO2 eq] / during operation     | 48.9 kg         |
| global warming potential [CO2 eq] / after end of life    | -2.2 kg         |
| Siemens Eco Profile (SEP)                                | Siemens EcoTech |
| reference code / according to IEC 81346-2                | Q               |

#### Approvals / Certificates

##### General Product Approval



[Confirmation](#)



##### General Product Approval

##### EMV

##### Maritime application

[Miscellaneous](#)



##### Maritime application

##### other

##### Dangerous goods

##### Environment



[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=3VA6225-5KL31-2AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6225-5KL31-2AA0>

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

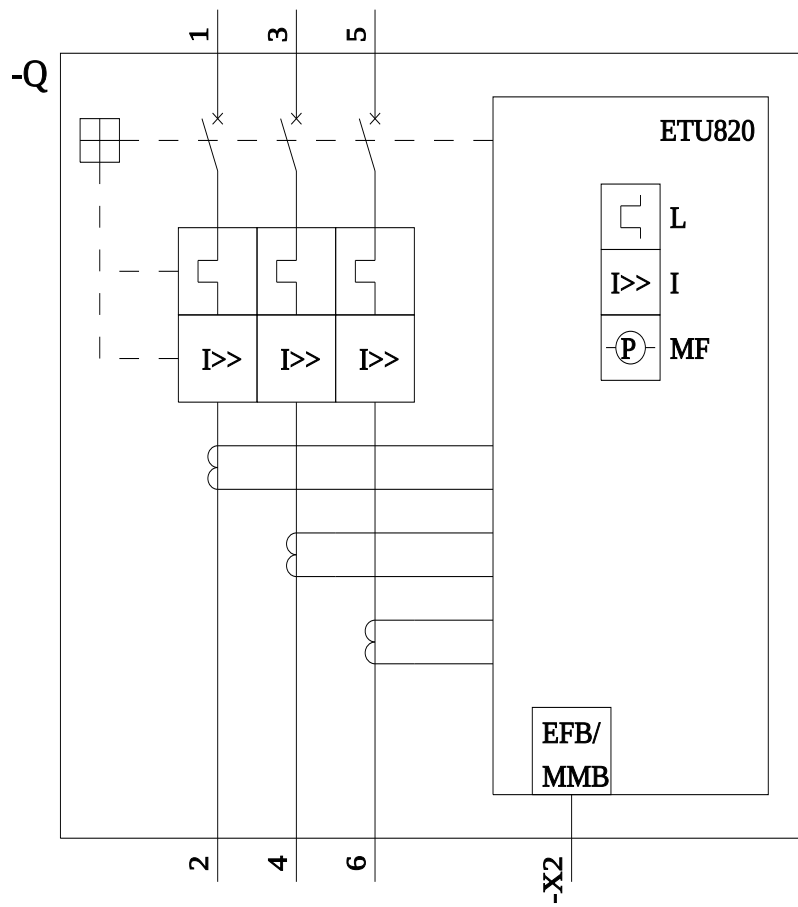
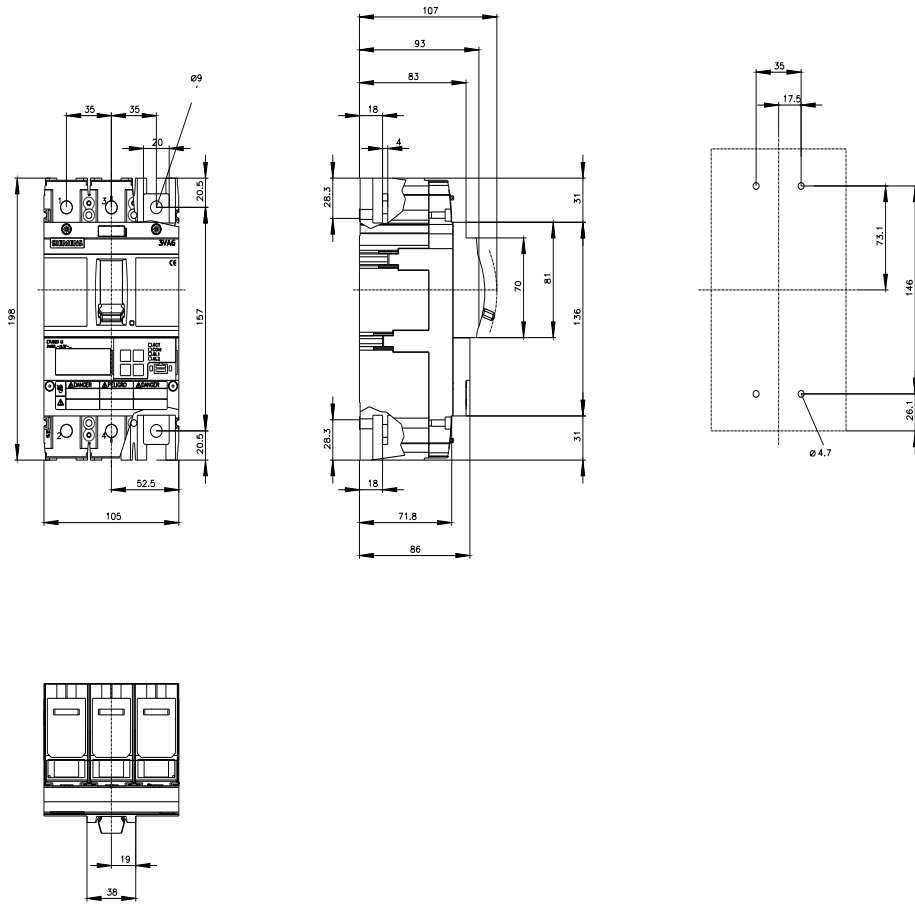
[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6225-5KL31-2AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6225-5KL31-2AA0)

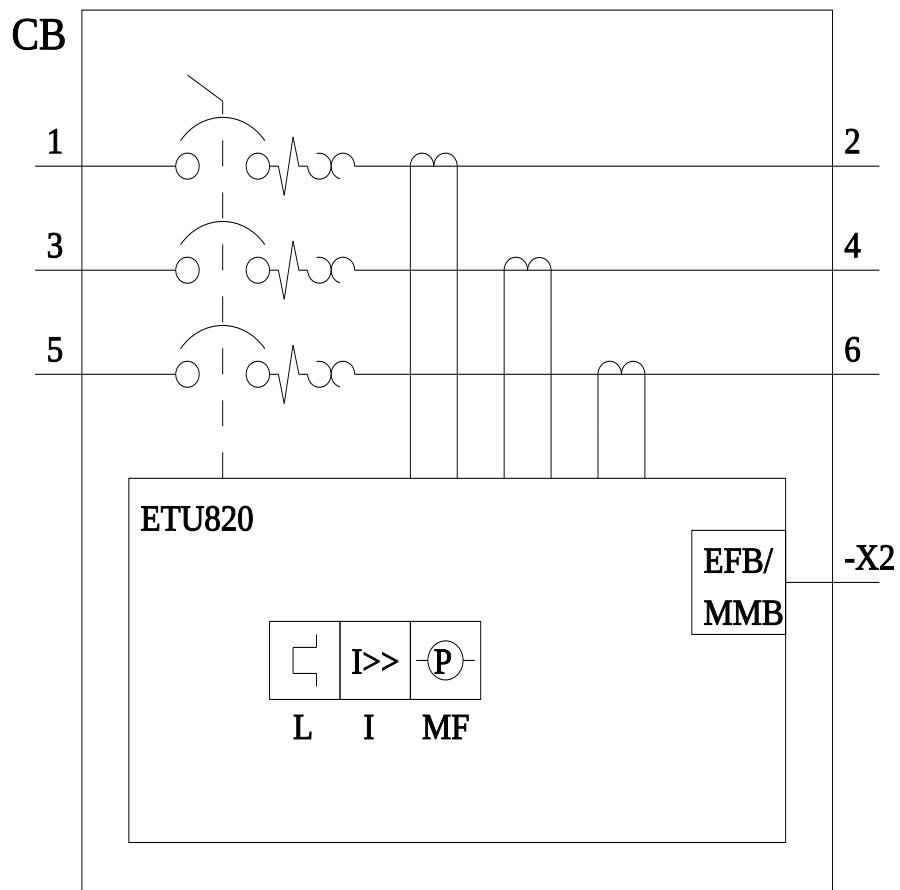
##### CAX-Online-Generator

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

##### Tender specifications

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





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