



circuit breaker 3VA5 UL Frame 600 breaking capacity class C 100 kA @ 480 V 3-pole, line protection TM230, FTAM, In=500 A overload protection Ir = 500 A permanently set short-circuit protection Ii=5...10 x In without connection

| Model | |
|--|-----------------------------|
| product brand name | SENTRON |
| product designation | Molded-case circuit breaker |
| product designation / according to UL file | CLAS |
| 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 load switch / according to UL 489 / High-Intensity-Discharge circuit breaker (HID Type) | No |
| design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type) | No |
| design of the overcurrent release | TM230 |
| protection function of the overcurrent release | LI |
| number of poles | 3 |
| General technical data | |
| insulation voltage / rated value | 800 V |
| operating voltage / at DC / rated value | 500 V |
| operating voltage / at AC / rated value | 690 V |
| power loss [W] / maximum | 122 W |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole | 40.77 W |
| mechanical service life (operating cycles) / typical | 20 000 |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V | 4 000 |
| electrical endurance (operating cycles) / at AC-1 / at 690 V | 2 700 |
| electrical endurance (operating cycles) / at 480 V | 4 000 |
| electrical endurance (operating cycles) / at 600 V | 2 700 |
| product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof | No |
| product function | |
| • communication function | No |
| • other measurement function | No |
| Net Weight | 5.2 kg |
| Current | |
| marking / according to UL 489 / 100%-rated breaker | No |
| operational current | |
| • at 40 °C | 500 A |
| • at 45 °C | 488 A |
| • at 50 °C | 476 A |
| • at 55 °C | 464 A |
| • at 60 °C | 451 A |
| • at 65 °C | 439 A |
| • at 70 °C | 427 A |

| Switching capacity according to IEC 60947 | |
|--|--|
| switching capacity class of the circuit breaker | C |
| maximum short-circuit current breaking capacity (I _{cu}) | |
| • at 240 V | 200 kA |
| • at 415 V | 110 kA |
| • at 690 V | 10 kA |
| operating short-circuit current breaking capacity (I _{cs}) | |
| • at 240 V | 200 kA |
| • at 415 V | 110 kA |
| • at 690 V | 6 kA |
| short-circuit current making capacity (I _{cm}) | |
| • at 240 V | 440 kA |
| • at 415 V | 242 kA |
| • at 690 V | 17 kA |
| design of short-circuit protection | For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service & Support in the last chapter |
| Switching capacity according to UL 489 | |
| current breaking capacity | |
| • at 240 V | 200 kA |
| • at 480 V | 100 kA |
| • at 600 V | 35 kA |
| Adjustable parameters | |
| adjustable response value setting current (I _r) / of the L-trip / with I ² t characteristic | |
| • minimum | 500 A |
| • maximum | 500 A |
| adjustable response value delay time (t _r) / for L-tripping / with I ² t characteristic | |
| • minimum | 1 s |
| • maximum | 1 s |
| adjustable response value setting current (I _i) / for I-tripping | |
| • minimum | 2 500 A |
| • maximum | 5 000 A |
| adjustable setting current (I _{nN}) / for N-tripping | |
| • minimum | 0 A |
| • maximum | 0 A |
| product function / grounding protection | No |
| Mechanical Design | |
| product component | |
| • undervoltage release | No |
| • voltage trigger | No |
| • trip indicator | No |
| height [in] | 9.76 in |
| height | 248 mm |
| width [in] | 5.43 in |
| width | 138 mm |
| depth [in] | 4.33 in |
| depth | 110 mm |
| Connections | |
| arrangement of electrical connectors / for main current circuit | Without connection |
| type of electrical connection / for main current circuit | Without |
| Auxiliary circuit | |
| number of CO contacts / for auxiliary contacts | 0 |
| Accessories | |
| product extension / optional / motor drive | Yes |
| Environmental conditions | |
| 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

Q

Approvals / Certificates

General Product Approval



[Confirmation](#)



General Product Approval

EMV

Marine / Shipping



[Miscellaneous](#)



other

Environment

[Miscellaneous](#)

[Confirmation](#)

[Miscellaneous](#)

[Environmental Confirmations](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/lowvoltage/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA5450-7EC31-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5450-7EC31-0AA0>

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

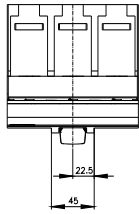
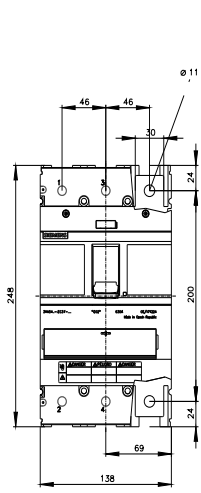
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5450-7EC31-0AA0

CAX-Online-Generator

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

Tender specifications

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



CB



last modified:

6/16/2022 

