



circuit breaker 3VA5 UL Frame 600 breaking capacity class H 65 kA @ 480 V 4-pole, line protection TM230, FTAM, $I_n=450$ A overload protection $I_r=450$ A permanently set short-circuit protection $I_i=5...10 \times I_n$ neutral conductor protection 100% without connection

| Model | |
|--|-----------------------------|
| product brand name | SENTRON |
| product designation | Molded-case circuit breaker |
| product designation / according to UL file | HLAS |
| 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 | 4 |
| General technical data | |
| insulation voltage / rated value | 800 V |
| operating voltage / at DC / rated value | 600 V |
| operating voltage / at AC / rated value | 690 V |
| power loss [W] / maximum | 99 W |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole | 33 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/retrofitable / short-circuit and overload proof | No |
| product function | |
| • communication function | No |
| • other measurement function | No |
| Net Weight | 6.82 kg |
| Current | |
| marking / according to UL 489 / 100%-rated breaker | No |
| operational current | |
| • at 40 °C | 450 A |
| • at 45 °C | 440 A |
| • at 50 °C | 429 A |
| • at 55 °C | 419 A |
| • at 60 °C | 409 A |

| | |
|---|--|
| <ul style="list-style-type: none"> • at 65 °C • at 70 °C | 398 A 388 A |
| Switching capacity according to IEC 60947 | |
| switching capacity class of the circuit breaker | H |
| maximum short-circuit current breaking capacity (I _{cu}) <ul style="list-style-type: none"> • at 240 V • at 415 V • at 690 V | 100 kA 70 kA 10 kA |
| operating short-circuit current breaking capacity (I _{cs}) <ul style="list-style-type: none"> • at 240 V • at 415 V • at 690 V | 100 kA 70 kA 6 kA |
| short-circuit current making capacity (I _{cm}) <ul style="list-style-type: none"> • at 240 V • at 415 V • at 690 V | 220 kA 154 kA 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 <ul style="list-style-type: none"> • at 240 V • at 480 V • at 600 V | 100 kA 65 kA 25 kA |
| Adjustable parameters | |
| adjustable response value setting current (I _r) / of the L-trip / with I ² t characteristic <ul style="list-style-type: none"> • minimum • maximum | 450 A 450 A |
| adjustable response value delay time (t _r) / for L-tripping / with I ² t characteristic <ul style="list-style-type: none"> • minimum • maximum | 1 s 1 s |
| adjustable response value setting current (I _i) / for I-tripping <ul style="list-style-type: none"> • minimum • maximum | 2 250 A 4 500 A |
| adjustable setting current (I _{nN}) / for N-tripping <ul style="list-style-type: none"> • minimum • maximum | 450 A 450 A |
| design of the N-conductor protection | 100% |
| product function / grounding protection | No |
| Mechanical Design | |
| product component <ul style="list-style-type: none"> • undervoltage release • voltage trigger • trip indicator | No No No |
| height [in] | 9.76 in |
| height | 248 mm |
| width [in] | 7.24 in |
| width | 184 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 | -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 | other |
|--------------------------|-----|-------------------|-------|
|--------------------------|-----|-------------------|-------|

[Miscellaneous](#)



[Type Test Certificates/Test Report](#)

[Confirmation](#)

| other | Environment |
|-------|-------------|
|-------|-------------|

[Miscellaneous](#)

[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=3VA5445-6GC41-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5445-6GC41-0AA0>

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

https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5445-6GC41-0AA0

CAX-Online-Generator

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

Tender specifications

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



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