



circuit breaker 3VA5 UL frame 125 breaking capacity class M 35kA @ 277 V 1-pole, line protection TM210, FTFM, In=45A overload protection Ir=45A fixed short circuit protection li=10 x In cable connection

| Model | |
|--|-----------------------------|
| product brand name | SENTRON |
| product designation | Molded-case circuit breaker |
| product designation / according to UL file | MEAS |
| Product version | 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) | Yes |
| design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type) | No |
| design of the overcurrent release | TM210 |
| protection function of the overcurrent release | LI |
| number of poles | 1 |
| General technical data | |
| insulation voltage / rated value | 500 V |
| Max. rated operational voltage Ue with DC | 125 V |
| operating voltage / at AC / rated value | 415 V |
| power loss [W] / maximum | 3.8 W |
| Active power loss / for rated value of the current / at AC / in hot operating state / per pole | 3.8 W |
| mechanical service life (switching cycles) / typical | 20 000 |
| Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz | 8 000 |
| Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz | 4 000 |
| electrical endurance (switching cycles) / at 480 V | 8 000 |
| electrical endurance (switching cycles) / at 600 V | 4 000 |
| Neutral conductors / upgradeable/retrofitable | No |
| ground-fault monitoring version | without |
| product function | |
| • communication function | No |
| • other measurement function | No |
| Net Weight | 0.541 kg |
| Current | |
| marking / according to UL 489 / 100%-rated breaker | No |
| operational current | |
| • at 40 °C | 45 A |
| • at 45 °C | 44 A |
| • at 50 °C | 44 A |
| • at 55 °C | 43 A |
| • at 60 °C | 42 A |

- at 65 °C
- at 70 °C

42 A
41 A

Switching capacity according to IEC 60947

| | |
|--|--|
| switching capacity class of the circuit breaker | M |
| breaking capacity maximum short-circuit current (I _{cu}) | |
| • at 240 V | 36 kA |
| • at 415 V | 5 kA |
| breaking capacity operating short-circuit current (I _{cs}) | |
| • at 240 V | 36 kA |
| • at 415 V | 5 kA |
| short-circuit current making capacity (I _{cm}) | |
| • at 240 V | 75.6 kA |
| • at 415 V | 7.5 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

| | |
|---------------------------|-------|
| breaking capacity current | |
| • at 120 V | 85 kA |
| • at 277 V | 35 kA |
| • at 347 V | 18 kA |

Adjustable parameters

| | |
|---|------------------|
| product feature / for L-tripping / selectable characteristic function | No |
| type of value list setting current (I _r) / for L-tripping / with I _{2t} characteristic | Fest |
| reference value setting current (I _r) / for L-tripping / with I _{2t} characteristic | x I _n |
| set values setting current (I _r) / for L-tripping / with I _{2t} characteristic | 1 |
| adjustable response factor setting current (I _r) / for L-tripping / with I _{2t} characteristic / minimum | 1 |
| adjustable response factor setting current (I _r) / for L-tripping / with I _{2t} characteristic / maximum | 1 |
| adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic / minimum | 45 A |
| adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic / maximum | 45 A |
| type of value list delay time (t _r) / for L-tripping / with I _{2t} characteristic | Fest |
| reference value delay time (t _r) / for L-tripping / with I _{2t} characteristic | s |
| set values delay time (t _r) / for L-tripping / with I _{2t} characteristic | 1 |
| adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic / minimum | 1 s |
| adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic / maximum | 1 s |
| product feature / for S-tripping / independent of direction / selectable characteristic function | No |
| product feature / for I-tripping / can be switched on/off | No |
| design of I-trip / adjustable | No |
| reference value setting current (I _i) / for I-tripping | x I _n |
| set values setting current (I _i) / for I-tripping | 10 |
| adjustable response factor setting current (I _i) / for I-tripping / minimum | 10 |
| adjustable response factor setting current (I _i) / for I-tripping / maximum | 10 |
| adjustable response value setting current (I _i) / for I-tripping / minimum | 450 A |
| adjustable response value setting current (I _i) / for I-tripping / maximum | 450 A |
| product feature / for G-tripping / selectable characteristic function | No |
| product feature / with neutral conductor protection / can be switched on/off | No |
| product feature / with neutral conductor protection / adjustable | Yes |

| | |
|--|----------------------------------|
| type of value list setting current (InN) / for N-tripping | St |
| reference value setting current (InN) / for N-tripping | x In |
| adjustable absolute value setting current (InN) / for N-tripping / minimum | 0 A |
| adjustable absolute value setting current (InN) / for N-tripping / maximum | 0 A |
| tripping characteristic / of the lower tolerance band | AK_3VA5_1_45A_TM2_SuMuH_uT |
| tripping characteristic / of the upper tolerance band | AK_3VA5_1_45A_TM2_SuMuH_oT |
| let-through energy characteristic / at 240 V | DE_3VA5_1_45A_TM2_line_1p_240V |
| let-through energy characteristic / at 415 V | DE_3VA5_1_45A_TM2_line_1p_415V |
| type of value list setting current (Ii) / for I-tripping | Fest |
| tripping characteristic / of the let-through current characteristic / at 240 V | DS_3VA5_1_45A_TM210_line_1p_240V |
| tripping characteristic / of the let-through current characteristic / at 415 V | DS_3VA5_1_45A_TM210_line_1p_415V |
| Adjustable response value current / I _g min. | 32 A |
| adjustable current response value current / of the current-dependent overload release / full-scale value | 45 A |
| Ground fault protection / tripping switchable / I _{2t} =ON/OFF | No |

Mechanical Design

| | |
|---|-------------------|
| product component | |
| <ul style="list-style-type: none"> • undervoltage release • voltage trigger • trip indicator | No |
| height [in] | 5.51 in |
| Height | 140 mm |
| width [in] | 2 in |
| Type of connectable conductor cross-section, round conductor terminal, stranded | 1 x (8 AWG - 3/0) |
| Width | 50.8 mm |
| depth [in] | 3.01 in |
| depth | 76.5 mm |

Connections

| | |
|---|---|
| arrangement of electrical connectors / for main current circuit | Front connection |
| type of electrical connection / for main current circuit | circular conductor terminal on both sides |

Auxiliary circuit

| | |
|--|---|
| number of CO contacts / for auxiliary contacts | 0 |
|--|---|

Accessories

| | |
|--|----|
| product extension / optional / motor drive | No |
|--|----|

Environmental conditions

| | |
|--|------------------------------------|
| protection class IP / on the front | IP40 |
| ambient temperature | |
| <ul style="list-style-type: none"> • during operation / minimum • during operation / maximum • during storage / minimum • during storage / maximum | -25 °C 70 °C -40 °C 80 °C |

Certificates

| | |
|---|---|
| reference code / according to IEC 81346-2 | Q |
|---|---|

General Product Approval



[Confirmation](#)



[Miscellaneous](#)

| | | |
|-----|---------------------------|-------------------|
| EMC | Declaration of Conformity | Marine / Shipping |
|-----|---------------------------|-------------------|



Marine / Shipping

other



[Miscellaneous](#)

Further information

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=3VA5145-5ED56-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5145-5ED56-0AA0>

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

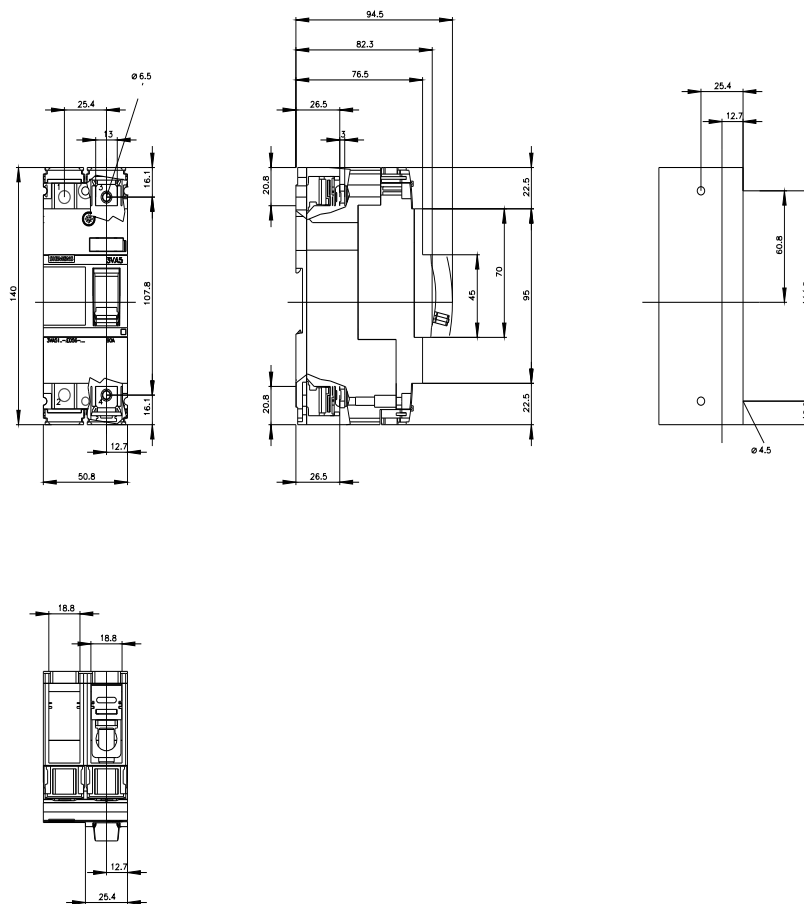
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5145-5ED56-0AA0

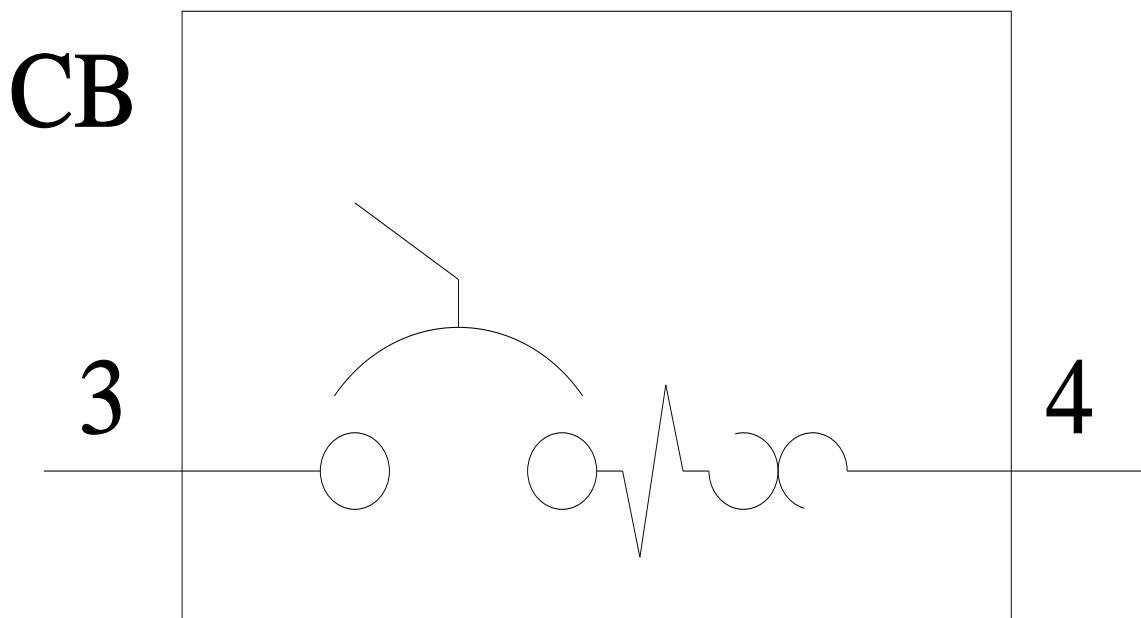
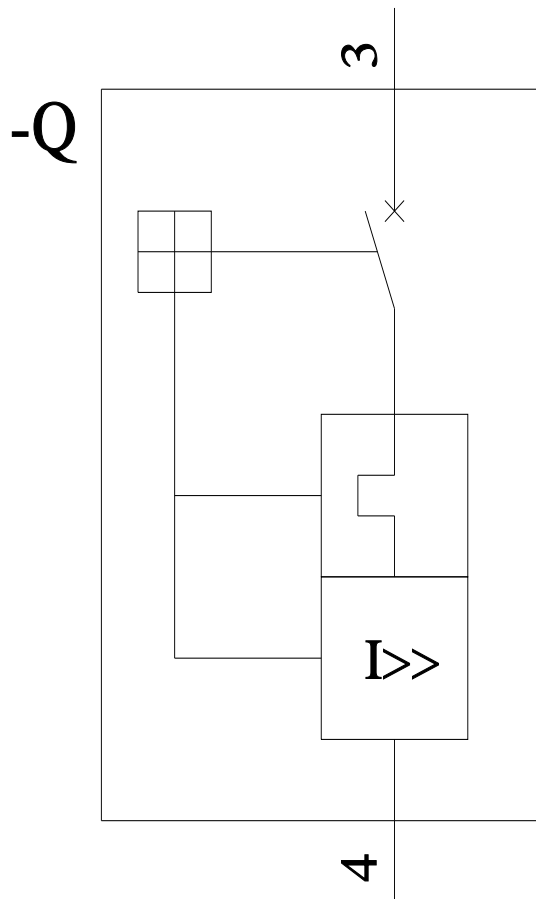
CAx-Online-Generator

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

Tender specifications

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





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