



circuit breaker 3VM1 IEC frame 630 breaking capacity class S $I_{cu}=55kA @ 415V$
 4-pole, line protection TM220, ATFM, $I_n=500A$ overload protection $I_r=350A...500A$
 short-circuit protection $I_i=10 \times I_n$ N conductor protection 100% nut keeper kit

| Model | |
|---|-----------------------------|
| product brand name | SENTRON |
| product designation | Molded case circuit breaker |
| design of the product | Line protection |
| design of the overcurrent release | TM220 |
| protection function of the overcurrent release | LI |
| number of poles | 4 |
| General technical data | |
| insulation voltage / rated value | 800 V |
| operating voltage / at AC / at 50/60 Hz / rated value | 500 V |
| operating voltage / at DC / rated value | 500 V |
| operating voltage / at AC / rated value | 690 V |
| power loss [W] / maximum | 123 W |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole | 40.9 W |
| mechanical service life (operating cycles) / typical | 15 000 |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V | 4 000 |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof | No |
| ground-fault monitoring version | Without |
| product function | |
| • communication function | No |
| • other measurement function | No |
| Net Weight | 6.41 kg |
| Current | |
| operational current | |
| • at 40 °C | 500 A |
| • at 45 °C | 500 A |
| • at 50 °C | 500 A |
| • at 55 °C | 488 A |
| • at 60 °C | 476 A |
| • at 65 °C | 464 A |
| • at 70 °C | 452 A |
| Switching capacity according to IEC 60947 | |
| switching capacity class of the circuit breaker | M |
| maximum short-circuit current breaking capacity (I_{cu}) | |
| • at 240 V | 85 kA |
| • at 415 V | 55 kA |
| • at 440 V | 55 kA |
| • at 500 V | 36 kA |
| operating short-circuit current breaking capacity (I_{cs}) | |

| | |
|--|---|
| <ul style="list-style-type: none"> • at 240 V • at 415 V • at 440 V • at 500 V | 63 kA 41 kA 41 kA 27 kA |
| short-circuit current making capacity (I _{cm}) | |
| <ul style="list-style-type: none"> • at 240 V • at 415 V • at 440 V • at 500 V | 187 kA 121 kA 121 kA 76 kA |
| design of short-circuit protection | For switching capacity values in DC power systems, see the 3VA Molded Case Circuit Breaker Manual; link available under Service & Support in the last chapter |

Adjustable parameters

| | |
|---|--------------------|
| product feature / for L-tripping / can be switched on/off | No |
| adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic | |
| <ul style="list-style-type: none"> • minimum • maximum | 350 A 500 A |
| adjustable response value delay time (t _r) / for L-tripping / with I _{2t} 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 | 5 000 A 5 000 A |
| adjustable setting current (I _{nN}) / for N-tripping | |
| <ul style="list-style-type: none"> • minimum • maximum | 500 A 500 A |
| adjustable current response value current / of instantaneous short-circuit trip unit | |
| <ul style="list-style-type: none"> • maximum | 5 000 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 | Front connection |
| type of electrical connection / for main current circuit | nut keeper kit on both ends |
| type of connectable conductor cross-sections / for flat-bar terminal connection / minimum | 20 x 1 mm |
| type of connectable conductor cross-sections / for flat-bar terminal connection / maximum | 35 x 10 mm |
| 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 |

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 | -25 °C |

- during operation / maximum
- during storage / minimum
- during storage / maximum

70 °C
-40 °C
80 °C

Approvals / Certificates

General Product Approval



[Confirmation](#)



[Miscellaneous](#)

General Product Approval

Test Certificates

Marine / Shipping

other



[Type Test Certificates/Test Report](#)



[Confirmation](#)

other

Environment

[Miscellaneous](#)

[Environmental Confirmations](#)

[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=3VM1450-5GE42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VM1450-5GE42-0AA0>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VM1450-5GE42-0AA0

CAX-Online-Generator

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

Tender specifications

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



