



circuit breaker 3VA1 IEC Frame 250 breaking capacity class M Icu=55 kA @ 415 V
4-pole, line protection TM240, ATAM, In=200 A overload protection Ir=140 A...200
A short-circuit protection Ii=5...10 x In N conductor unprotected 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 | TM240 |
| 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 | 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 | 20 000 |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V | 8 000 |
| electrical endurance (operating cycles) / at AC-1 / at 690 V | 5 400 |
| 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 | 2.087 kg |
| Current | |
| operational current | |
| • at 40 °C | 200 A |
| • at 45 °C | 200 A |
| • at 50 °C | 200 A |
| • at 55 °C | 194 A |
| • at 60 °C | 188 A |
| • at 65 °C | 182 A |
| • at 70 °C | 176 A |
| Switching capacity according to IEC 60947 | |
| switching capacity class of the circuit breaker | M |
| maximum short-circuit current breaking capacity (Icu) | |
| • at 240 V | 85 kA |
| • at 415 V | 55 kA |
| • at 440 V | 36 kA |

| | |
|--|--|
| <ul style="list-style-type: none"> • at 500 V • at 690 V | <p>15 kA</p> <p>10 kA</p> |
| operating short-circuit current breaking capacity (Ics) <ul style="list-style-type: none"> • at 240 V • at 415 V • at 440 V • at 500 V • at 690 V | <p>85 kA</p> <p>55 kA</p> <p>36 kA</p> <p>10 kA</p> <p>5 kA</p> |
| short-circuit current making capacity (Icm) <ul style="list-style-type: none"> • at 240 V • at 415 V • at 440 V • at 500 V • at 690 V | <p>187 kA</p> <p>121 kA</p> <p>75.6 kA</p> <p>30 kA</p> <p>17 kA</p> |
| 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 |

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 ² t characteristic <ul style="list-style-type: none"> • minimum • maximum | <p>140 A</p> <p>200 A</p> |
| adjustable response value delay time (tr) / for L-tripping / with I ² t characteristic <ul style="list-style-type: none"> • minimum • maximum | <p>1 s</p> <p>1 s</p> |
| adjustable response value setting current (I _i) / for I-tripping <ul style="list-style-type: none"> • minimum • maximum | <p>1 000 A</p> <p>2 000 A</p> |
| adjustable setting current (I _{nN}) / for N-tripping <ul style="list-style-type: none"> • minimum • maximum | <p>0 A</p> <p>0 A</p> |
| design of the N-conductor protection | without |
| product function / grounding protection | No |

Mechanical Design

| | |
|---|-------------------------------|
| product component <ul style="list-style-type: none"> • undervoltage release • voltage trigger • trip indicator | <p>No</p> <p>No</p> <p>No</p> |
| height [in] | 6.22 in |
| height | 158 mm |
| width [in] | 5.51 in |
| width | 140 mm |
| depth [in] | 2.76 in |
| depth | 70 mm |

Connections

| | |
|---|-----------------------------|
| arrangement of electrical connectors / for main current circuit | Front terminal |
| 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 | 13 x 1 mm |
| type of connectable conductor cross-sections / for flat-bar terminal connection / maximum | 25 x 8 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 | 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 |

| Environmental footprint | |
|--|-----------|
| global warming potential [CO2 eq] / total | 285.47 kg |
| global warming potential [CO2 eq] / during manufacturing | 6.87 kg |
| global warming potential [CO2 eq] / during operation | 279 kg |
| global warming potential [CO2 eq] / after end of life | -0.78 kg |
| reference code / according to IEC 81346-2 | Q |

Approvals / Certificates

General Product Approval



[Miscellaneous](#)



EMV Maritime application



other Environment

[Miscellaneous](#)

[Environmental Confirmations](#)

[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=3VA1220-5EF42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1220-5EF42-0AA0>

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

https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1220-5EF42-0AA0

CAX-Online-Generator

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

Tender specifications

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

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)



