



circuit breaker 3VA1 IEC Frame 160 breaking capacity class S Icu=36 kA @ 415 V
4-pole, line protection TM240, ATAM, In=63 A overload protection Ir=44 A...63 A
short-circuit protection Ii=5...10 x In N conductor unprotected terminal connection

| 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 | 17.3 W |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole | 5.77 W |
| mechanical service life (operating cycles) / typical | 20 000 |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V | 9 000 |
| electrical endurance (operating cycles) / at AC-1 / at 690 V | 6 300 |
| 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 | 1.287 kg |
| Current | |
| operational current | |
| • at 40 °C | 63 A |
| • at 45 °C | 63 A |
| • at 50 °C | 63 A |
| • at 55 °C | 62 A |
| • at 60 °C | 61 A |
| • at 65 °C | 60 A |
| • at 70 °C | 58 A |
| Switching capacity according to IEC 60947 | |
| switching capacity class of the circuit breaker | S |
| maximum short-circuit current breaking capacity (Icu) | |
| • at 240 V | 55 kA |
| • at 415 V | 36 kA |
| • at 440 V | 25 kA |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • at 500 V • at 690 V | 7 kA 7 kA |
| 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 | 55 kA 36 kA 25 kA 5 kA 5 kA |
| 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 | 121 kA 75.5 kA 52.5 kA 11.9 kA 11.9 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 |

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 | 44 A 63 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 | 315 A 630 A |
| adjustable setting current (I _{nN}) / for N-tripping | |
| <ul style="list-style-type: none"> • minimum • maximum | 0 A 0 A |
| 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 | No No No |
| height [in] | 5.12 in |
| height | 130 mm |
| width [in] | 4 in |
| type of connectable conductor cross-sections / of the round conductor terminal / stranded | 1 x (1,5 - 70 mm ²) |
| width | 101.5 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 | box terminal on both sides |
| 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) | Tin |

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

| | |
|----------------------------------------------------------|-----------|
| Environmental Product Declaration(EPD) | Yes |
| global warming potential [CO2 eq] / total | 190 kg |
| global warming potential [CO2 eq] / during manufacturing | 4.67 kg |
| global warming potential [CO2 eq] / during operation | 186 kg |
| global warming potential [CO2 eq] / after end of life | -0.826 kg |
| reference code / according to IEC 81346-2 | Q |

Approvals / Certificates

General Product Approval



[Miscellaneous](#)



General Product Approval

[Confirmation](#)



EG-Konf.



RCM

[Miscellaneous](#)

[Special Test Certificate](#)

Test Certificates

Maritime application

[Type Test Certificates/Test Report](#)



ABS



BUREAU VERITAS



DNV



LRS



RMRS

Maritime application

other

Environment

[CCS \(China Classification Society\)](#)

[Miscellaneous](#)

[Confirmation](#)



[Environmental Confirmations](#)

[Environmental Confirmations](#)

Environment



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=3VA1163-4EF46-0AA0>

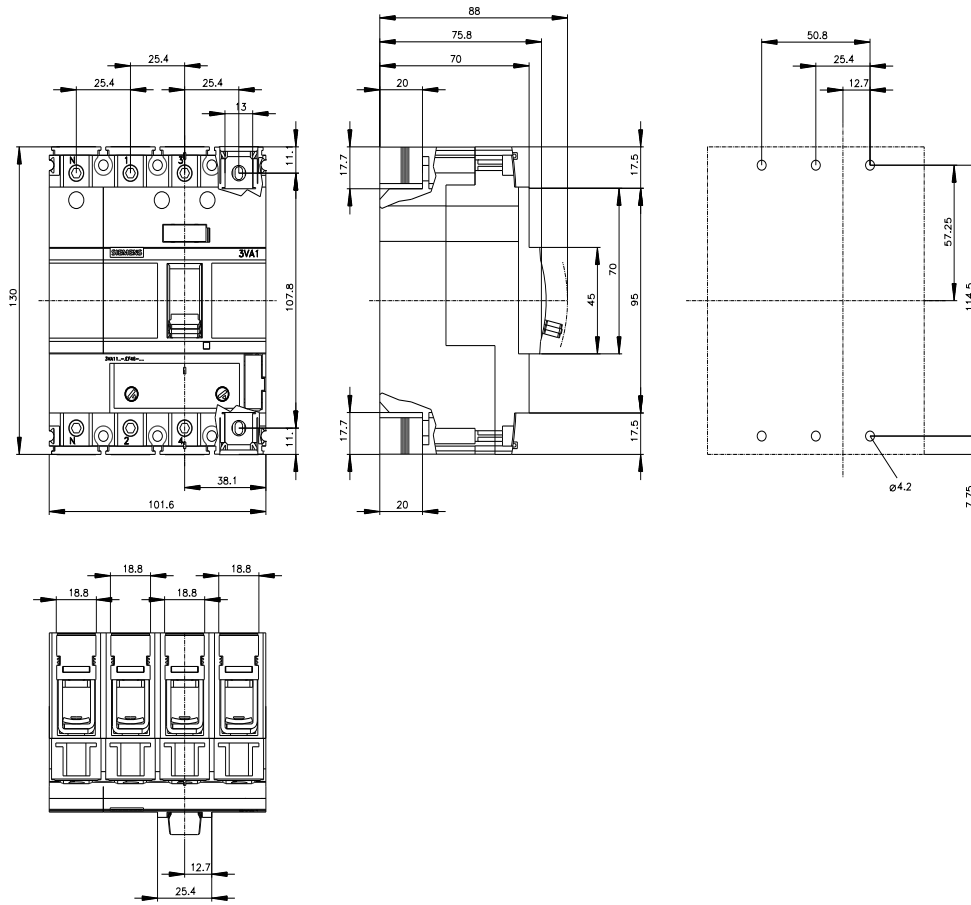
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1163-4EF46-0AA0>

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

https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1163-4EF46-0AA0

CAX-Online-Generator





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