



circuit breaker 3VA1 IEC frame 160 breaking capacity class S  $I_{cu}=36\text{kA}$  @ 415V 4-pole, line protection TM220, ATFM,  $I_n=50\text{A}$  overload protection  $I_r=35\text{A}\dots 50\text{A}$  short-circuit protection  $I_i=10 \times I_n$  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   | TM220                       |
| 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  | 14.6 W                      |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole           | 4.87 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  | 1.187 kg                    |
| Current   |                             |
| operational current   |                             |
| • at 40 °C  | 50 A                        |
| • at 45 °C  | 50 A                        |
| • at 50 °C  | 50 A                        |
| • at 55 °C  | 49 A                        |
| • at 60 °C  | 48 A                        |
| • at 65 °C  | 46 A                        |
| • at 70 °C  | 45 A                        |
| Switching capacity according to IEC 60947   |                             |
| switching capacity class of the circuit breaker   | S                           |
| maximum short-circuit current breaking capacity ( $I_{cu}$ )  |                             |
| • at 240 V  | 55 kA                       |
| • at 415 V  | 36 kA                       |
| • at 440 V  | 25 kA                       |
| • at 500 V  | 7 kA                        |
| • at 690 V  | 7 kA                        |

|  |  |
|--|--|
| operating short-circuit current breaking capacity (Ics)  |  |
| <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul> | 55 kA<br>36 kA<br>25 kA<br>5 kA<br>5 kA  |
| short-circuit current making capacity (Icm)  |  |
| <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul> | 121 kA<br>75.6 kA<br>52.5 kA<br>11.9 kA<br>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 (Ir) / of the L-trip / with I2t characteristic |                |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>           | 35 A<br>50 A   |
| adjustable response value delay time (tr) / for L-tripping / with I2t characteristic     |                |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>           | 1 s<br>1 s     |
| adjustable response value setting current (Ii) / for I-tripping                          |                |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>           | 500 A<br>500 A |
| adjustable setting current (InN) / for N-tripping  |                |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>           | 0 A<br>0 A     |
| design of the N-conductor protection   | without        |
| product function / grounding protection  | No             |

### Mechanical Design

|   |                |
|---|----------------|
| product component   |                |
| <ul style="list-style-type: none"> <li>• undervoltage release</li> <li>• voltage trigger</li> <li>• trip indicator</li> </ul> | No<br>No<br>No |
| height [in]   | 5.12 in        |
| height  | 130 mm         |
| width [in]  | 4 in           |
| width   | 101.6 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 | 12 x 1 mm                   |
| type of connectable conductor cross-sections / for flat-bar terminal connection / maximum | 17 x 6,5 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)     | 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  |        |
| <ul style="list-style-type: none"> <li>• during operation / minimum</li> </ul> | -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



[Confirmation](#)



[Miscellaneous](#)

[KC](#)



| EMC | Declaration of Conformity | Test Certificates |  |  |  |
|-----|---------------------------|-------------------|--|--|--|
|-----|---------------------------|-------------------|--|--|--|



[Special Test Certificate](#)

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

#### Marine / Shipping



[CCS / China Classification Society](#)

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

[Confirmation](#)

[Miscellaneous](#)

[Miscellaneous](#)

[Environmental Confirmations](#)

#### Further information

**Siemens has decided to exit the Russian market (see here).**

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

**Siemens is working on the renewal of the current EAC certificates.**

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

**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=3VA1150-4EE42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1150-4EE42-0AA0>

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

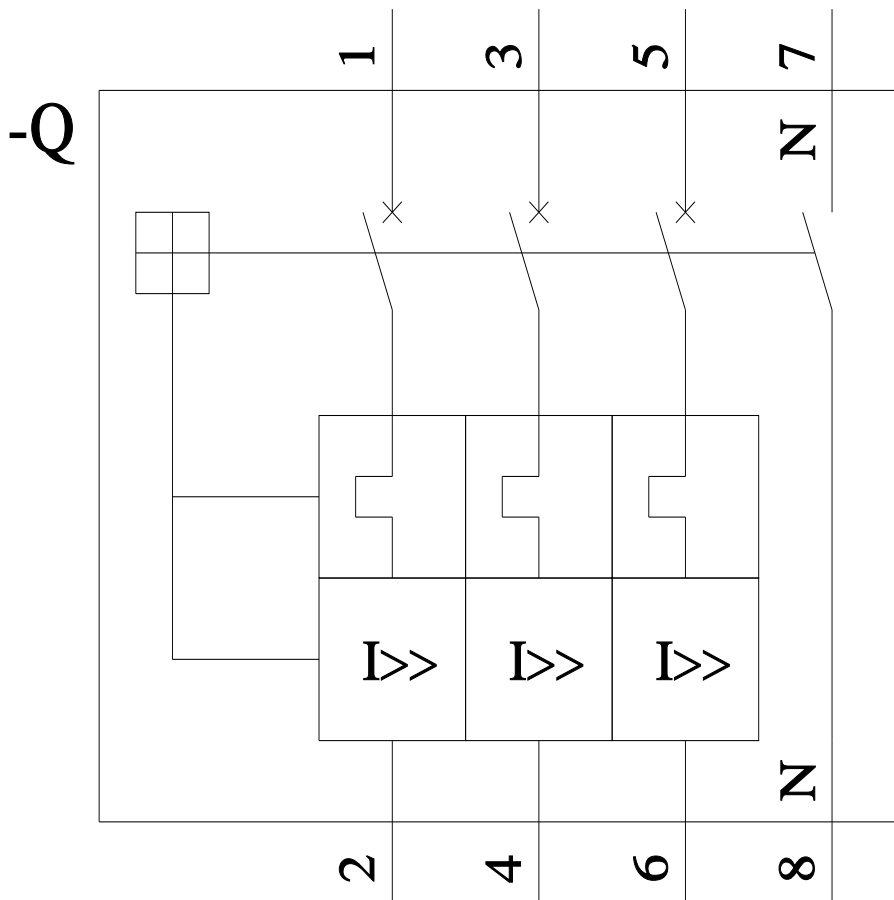
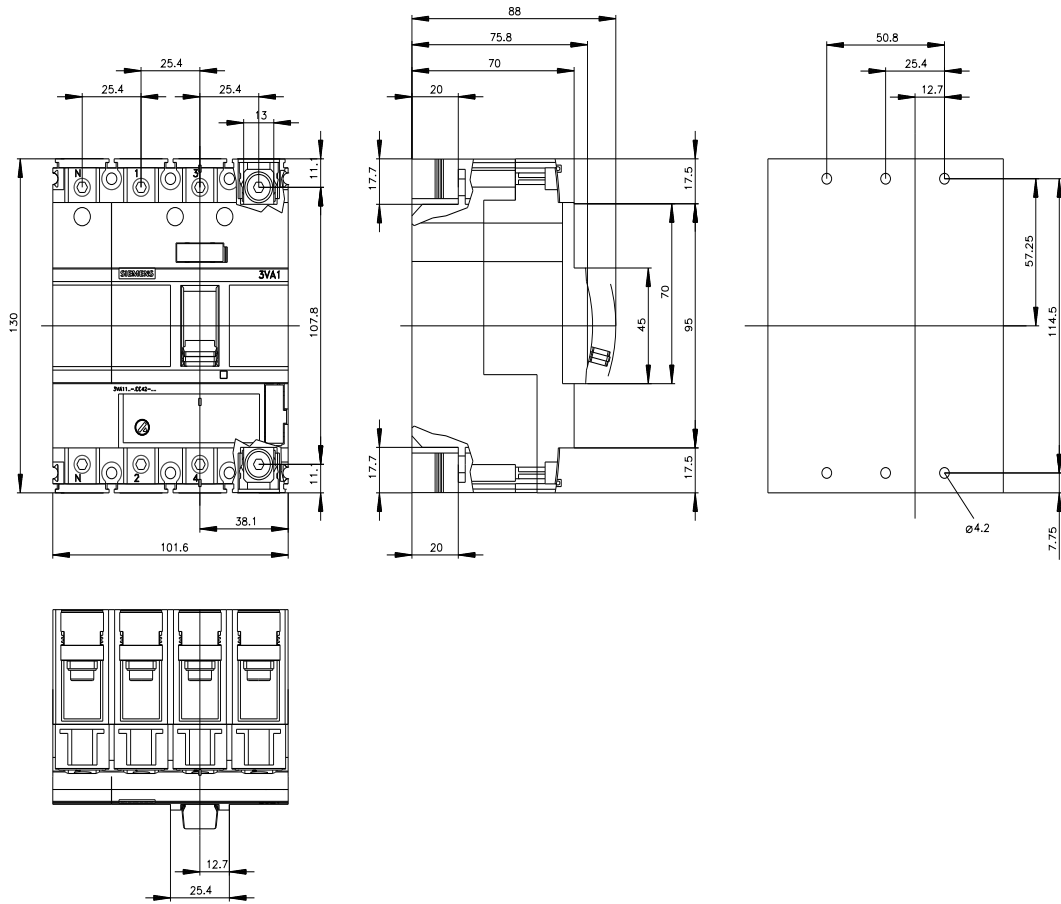
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1150-4EE42-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1150-4EE42-0AA0)

**CAX-Online-Generator**

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

**Tender specifications**

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



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