



circuit breaker 3VA1 IEC Frame 160 breaking capacity class H Icu=70 kA @ 415 V  
4-pole, line protection TM220, ATFM, In=125 A overload protection Ir=88 A...125 A  
short-circuit protection li=10 x In neutral 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 DC / rated value   | 600 V                       |
| operating voltage / at AC / rated value   | 690 V                       |
| power loss [W] / maximum  | 28.1 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  | 1.282 kg                    |
| Current   |                             |
| operational current   |                             |
| • at 40 °C  | 125 A                       |
| • at 45 °C  | 125 A                       |
| • at 50 °C  | 125 A                       |
| • at 55 °C  | 122 A                       |
| • at 60 °C  | 120 A                       |
| • at 65 °C  | 117 A                       |
| • at 70 °C  | 114 A                       |
| Switching capacity according to IEC 60947   |                             |
| switching capacity class of the circuit breaker   | H                           |
| maximum short-circuit current breaking capacity (Icu)   |                             |
| • at 240 V  | 100 kA                      |
| • at 415 V  | 70 kA                       |
| • at 440 V  | 36 kA                       |
| • at 500 V  | 10 kA                       |
| • at 690 V  | 10 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>  | 100 kA<br>70 kA<br>36 kA<br>5 kA<br>5 kA   |
| short-circuit current making capacity (I <sub>cm</sub> ) <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> | 220 kA<br>154 kA<br>75.6 kA<br>17 kA<br>17 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 <sub>r</sub> ) / of the L-trip / with I <sub>2t</sub> characteristic <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul> | 88 A<br>125 A      |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>     | 1 s<br>1 s         |
| adjustable response value setting current (I <sub>l</sub> ) / for I-tripping <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                                      | 1 250 A<br>1 250 A |
| adjustable setting current (I <sub>nN</sub> ) / for N-tripping <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>  | 125 A<br>125 A     |
| design of the N-conductor protection   | 100%               |
| 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> <li>• during operation / maximum</li> </ul> | -25 °C<br>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](#)

| General Product Approval | EMV | Test Certificates |  |  | Marine / Shipping |
|--------------------------|-----|-------------------|--|--|-------------------|
|--------------------------|-----|-------------------|--|--|-------------------|



[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



| Marine / Shipping | other |  |  |  |  |
|-------------------|-------|--|--|--|--|
|-------------------|-------|--|--|--|--|



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

[Miscellaneous](#)

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

[Confirmation](#)

[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=3VA1112-6GE42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1112-6GE42-0AA0>

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

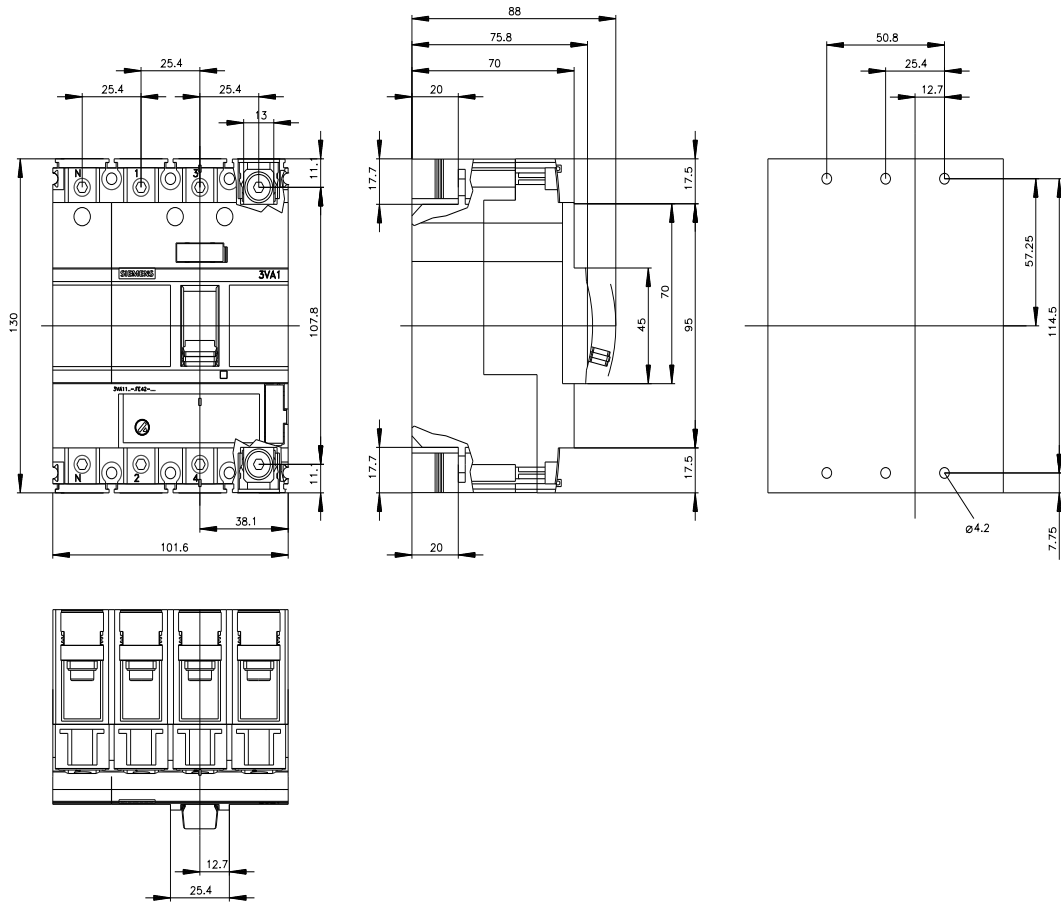
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1112-6GE42-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1112-6GE42-0AA0)

#### CAX-Online-Generator

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

#### Tender specifications

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



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