



Figure similar

CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING  
CAPACITY CLASS H ICU=70KA @ 415 V 4-POLE,  
LINE PROTECTION TM220, ATFM, IN=50A  
OVERLOAD PROTECTION IR=35A ...50A SHORT  
CIRCUIT PROTECTION II=10 X IN NEUTRAL  
UNPROTECTED CABLE CONNECTION

| Model   |   |                             |
|---|---|-----------------------------|
| product brand name  |   | SENTRON                     |
| Product designation   |   | Molded case circuit breaker |
| Design of the product   |   | Line protection             |
| Product variations  |   | General Applications        |
| Ground fault monitoring version   |   | Without                     |
| Design of the auxiliary release   |   | Without auxiliary release   |
| Design of the auxiliary switch  |   | Without                     |
| Design of the operating mechanism   |   | toggle handle               |
| Type of the driving mechanism / motor drive   |   | No                          |
| Design of the overcurrent release   |   | TM220                       |
| General technical data  |   |                             |
| Number of poles   |   | 4                           |
| Trip class / of the L-trip / with I <sub>2t</sub> characteristic / initial value    |   | 1                           |
| Trip class / of the L-trip / with I <sub>2t</sub> characteristic / Full-scale value |   | 1                           |
| Electrical endurance (switching cycles)   |   |                             |
| • at AC-1 / at 380/415 V / at 50/60 Hz  |   | 8 000                       |
| circuit-breaker / Design  |   | 3VA                         |
| Mechanical service life (switching cycles) / typical                                |   | 15 000                      |
| Voltage   |   |                             |
| Insulation voltage  |   |                             |
| • Rated value   | V | 800                         |

|  |   |                   |
|--|---|-------------------|
| Protection class   |   |                   |
| Protective function of the overcurrent release                 |   | LI                |
| Switching capacity   |   |                   |
| Switching capacity class of the circuit breaker                |   | H                 |
| Dissipation  |   |                   |
| Active power loss  |   |                   |
| • maximum  | W | 14.6              |
| Electricity  |   |                   |
| Operating current / at 45 °C / Rated value                     | A | 50                |
| Continuous current / Rated value / maximum                     | A | 160               |
| Continuous current   |   |                   |
| • Rated value  | A | 50                |
| Adjustable response value current                              |   |                   |
| • of the current-dependent overload release / Full-scale value | A | 1                 |
| • of the instantaneous short-circuit release / initial value   | A | 10                |
| Net weight   | g | 1 200             |
| Main circuit   |   |                   |
| Operating voltage  |   |                   |
| • with AC / at 50/60 Hz / Rated value                          | V | 690               |
| • for DC / Rated value   | V | 600               |
| Operating current  |   |                   |
| • at 40 °C / Rated value                                       | A | 50                |
| • at 50 °C / Rated value                                       | A | 50                |
| • at 55 °C / Rated value                                       | A | 49                |
| • at 60 °C / Rated value                                       | A | 48                |
| • at 65 °C / Rated value                                       | A | 46                |
| • at 70 °C / Rated value                                       | A | 45                |
| Auxiliary circuit  |   |                   |
| Number of CO contacts  |   |                   |
| • for auxiliary contacts                                       |   | 0                 |
| Suitability  |   |                   |
| • Suitability for use  |   | system protection |
| Adjustable parameters  |   |                   |
| Adjustable response value current                              |   |                   |
| • of I-trip / Full-scale value                                 | A | 10                |
| • for N-conductor protection / initial value                   | A | 0                 |
| • for N-conductor protection / Full-scale value                | A | 0                 |

|   |                            |                             |
|---|----------------------------|-----------------------------|
| Adjustable response value current / of the current-dependent overload release / initial value   | A                          | 0.7                         |
| Appearance  |                            |                             |
| Product details   |                            |                             |
| <b>Product component</b> <ul style="list-style-type: none"> <li>• Trip indicator</li> <li>• display</li> <li>• Voltage trigger</li> <li>• undervoltage release</li> <li>• undervoltage release with leading contact</li> </ul>  |                            | No<br>No<br>No<br>No<br>No  |
| <b>Product property</b> <ul style="list-style-type: none"> <li>• for neutral conductors / upgradeable/retrofitable / Short-circuit and overload proof</li> </ul>  |                            | No                          |
| <b>Product expansion</b> <ul style="list-style-type: none"> <li>• optional <ul style="list-style-type: none"> <li>— motor drive</li> </ul> </li> </ul>  |                            | Yes                         |
| Product function  |                            |                             |
| <b>Product function</b> <ul style="list-style-type: none"> <li>• Intrinsic device protection</li> <li>• communication function</li> <li>• Phase failure detection</li> <li>• other measurement function</li> </ul>  |                            | Yes<br>No<br>No<br>No       |
| Accessories   |                            |                             |
| Manufacturer article number / of the supplied basic switch  |                            | 3VA1150-6EE46-0AA0          |
| Short circuit   |                            |                             |
| <b>Operational short-circuit current breaking capacity (Ics)</b> <ul style="list-style-type: none"> <li>• at 240 V / Rated value</li> <li>• at 415 V / Rated value</li> <li>• at 440 V / Rated value</li> <li>• at 500 V / Rated value</li> <li>• at 690 V / Rated value</li> </ul> | kA<br>kA<br>kA<br>kA<br>kA | 100<br>70<br>36<br>15<br>5  |
| <b>Maximum short-circuit current breaking capacity (Icu)</b> <ul style="list-style-type: none"> <li>• at 240 V / Rated value</li> <li>• at 415 V / Rated value</li> <li>• at 440 V / Rated value</li> <li>• at 500 V / Rated value</li> <li>• at 690 V / Rated value</li> </ul>     | kA<br>kA<br>kA<br>kA<br>kA | 100<br>70<br>36<br>20<br>10 |
| Short-circuit current making capacity (Icm)   |                            |                             |

- at 240 V / Rated value
- at 415 V / Rated value
- at 690 V / Rated value

|    |     |
|----|-----|
| kA | 220 |
| kA | 154 |
| kA | 17  |

## Connections

|  |  |                                 |
|--|--|---------------------------------|
| <b>Arrangement of electrical connectors</b>  |  |                                 |
| • for main current circuit                   |  | Front terminal                  |
| Type of connectable conductor cross-section  |  |                                 |
| • of the round conductor terminal / stranded |  | 1 x (1.5 - 70 mm <sup>2</sup> ) |
| <b>Design of the electrical connection</b>   |  |                                 |
| • for main current circuit                   |  | Box terminal                    |

## Mechanical Design

|                      |    |                |
|----------------------|----|----------------|
| <b>Height</b>        | mm | 130            |
| <b>Width</b>         | mm | 101.6          |
| <b>Depth</b>         | mm | 70             |
| <b>Mounting type</b> |    | fixed mounting |

## Environmental conditions

|                              |    |     |
|------------------------------|----|-----|
| <b>Ambient temperature</b>   |    |     |
| • during operation / minimum | °C | -25 |
| • during operation / maximum | °C | 70  |
| • during storage / minimum   | °C | -40 |
| • during storage / maximum   | °C | 80  |

## Certificates

|                          |  |   |
|--------------------------|--|---|
| <b>Reference code</b>    |  |   |
| • acc. to DIN EN 61346-2 |  | Q |
| • acc. to DIN EN 81346-2 |  | Q |

|                                 |            |                                  |                          |              |
|---------------------------------|------------|----------------------------------|--------------------------|--------------|
| <b>General Product Approval</b> | <b>EMC</b> | <b>Declaration of Conformity</b> | <b>Shipping Approval</b> | <b>other</b> |
|---------------------------------|------------|----------------------------------|--------------------------|--------------|



[other](#)



EG-Konf.



GL

[other](#)

## Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

<http://www.siemens.com/lowvoltage/catalogs>

**Industry Mall (Online ordering system)**

<https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA11506EE460AA0>

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

<http://support.automation.siemens.com/WW/view/en/3VA11506EE460AA0/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA11506EE460AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11506EE460AA0)



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last modified:

21.10.2014