



circuit breaker 3VA1 IEC frame 160 breaking capacity class S  $I_{cu}=36kA$  @ 415V 4-pole, line protection TM220, ATFM,  $I_n=160A$  overload protection  $I_r=112A...160A$  short-circuit protection  $I_i=10 \times I_n$  N conductor protection 50% nut keeper kit

| Model                                                                                          |                             |
|------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                             | SETRON                      |
| product designation                                                                            | Molded case circuit breaker |
| Product version                                                                                | Line protection             |
| design of the overcurrent release                                                              | TM220                       |
| protection function of the overcurrent release                                                 | LI                          |
| number of poles                                                                                | 4                           |
| General technical data                                                                         |                             |
| Tension assignée d'isolement $U_i$                                                             | 800 V                       |
| Max. rated operational voltage $U_e$ with DC                                                   | 600 V                       |
| power loss [W] / maximum                                                                       | 38 W                        |
| Active power loss / for rated value of the current / at AC / in hot operating state / per pole | 12.67 W                     |
| mechanical service life (switching cycles) / typical                                           | 20 000                      |
| Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz                      | 8 000                       |
| Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz                          | 8 000                       |
| Neutral conductors / upgradeable/retrofitable                                                  | No                          |
| ground-fault monitoring version                                                                | Without                     |
| product function                                                                               |                             |
| • communication function                                                                       | No                          |
| • other measurement function                                                                   | No                          |
| net weight                                                                                     | 1.2 kg                      |
| Current                                                                                        |                             |
| Max. rated operational current of the frame size                                               | 160 A                       |
| Courant permanent assigné $I_u$                                                                | 160 A                       |
| operational current                                                                            |                             |
| • at 40 °C                                                                                     | 160 A                       |
| • at 45 °C                                                                                     | 160 A                       |
| • at 50 °C                                                                                     | 160 A                       |
| • at 55 °C                                                                                     | 158 A                       |
| • at 60 °C                                                                                     | 155 A                       |
| • at 65 °C                                                                                     | 153 A                       |
| • at 70 °C                                                                                     | 150 A                       |
| Switching capacity according to IEC 60947                                                      |                             |
| switching capacity class of the circuit breaker                                                | S                           |
| breaking capacity maximum short-circuit current ( $I_{cu}$ )                                   |                             |

|                                                                                                                                                                                                                  |                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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>7 kA<br>7 kA                                                                                                                        |
| breaking capacity operating short-circuit current (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>76 kA<br>53 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 |
| <b>Adjustable parameters</b>                                                                                                                                                                                     |                                                                                                                                                                |
| Adjustable response value current / li min.                                                                                                                                                                      | 1 600 A                                                                                                                                                        |
| Adjustable response value current / li max.                                                                                                                                                                      | 1 600 A                                                                                                                                                        |
| design of the N-conductor protection                                                                                                                                                                             | 50%                                                                                                                                                            |
| Ground fault protection / tripping switchable / I2t=ON/OFF                                                                                                                                                       | No                                                                                                                                                             |
| <b>Mechanical Design</b>                                                                                                                                                                                         |                                                                                                                                                                |
| height [in]                                                                                                                                                                                                      | 5.1 in                                                                                                                                                         |
| Height                                                                                                                                                                                                           | 130 mm                                                                                                                                                         |
| width [in]                                                                                                                                                                                                       | 4 in                                                                                                                                                           |
| Width                                                                                                                                                                                                            | 101.6 mm                                                                                                                                                       |
| depth [in]                                                                                                                                                                                                       | 2.8 in                                                                                                                                                         |
| depth                                                                                                                                                                                                            | 70 mm                                                                                                                                                          |
| <b>Connections</b>                                                                                                                                                                                               |                                                                                                                                                                |
| arrangement of electrical connectors / for main current circuit                                                                                                                                                  | Front terminal                                                                                                                                                 |
| Type of connectable conductor cross-section, connection screw, width x thickness , min.                                                                                                                          | 12 x 0 mm                                                                                                                                                      |
| Type of connectable conductor cross-section, connection screw, width x thickness , max.                                                                                                                          | 17 x 6.5 mm                                                                                                                                                    |
| <b>Auxiliary circuit</b>                                                                                                                                                                                         |                                                                                                                                                                |
| number of CO contacts / for auxiliary contacts                                                                                                                                                                   | 0                                                                                                                                                              |
| <b>Accessories</b>                                                                                                                                                                                               |                                                                                                                                                                |
| product extension / optional / motor drive                                                                                                                                                                       | Yes                                                                                                                                                            |
| <b>Environmental conditions</b>                                                                                                                                                                                  |                                                                                                                                                                |
| 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> <li>• during storage / minimum</li> <li>• during storage / maximum</li> </ul> | -25 °C<br>70 °C<br>-40 °C<br>80 °C                                                                                                                             |
| <b>Certificates</b>                                                                                                                                                                                              |                                                                                                                                                                |
| reference code / acc. to IEC 81346-2                                                                                                                                                                             | Q                                                                                                                                                              |
| <b>General Product Approval</b>                                                                                                                                                                                  |                                                                                                                                                                |
| EMC                                                                                                                                                                                                              |                                                                                                                                                                |



Miscellaneous

KC



| Declaration of Conformity | Test Certificates | Shipping Approval |
|---------------------------|-------------------|-------------------|
|---------------------------|-------------------|-------------------|



[Special Test Certificate](#)

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



| Shipping Approval | other |
|-------------------|-------|
|-------------------|-------|



[CCS / China Classification Society](#)

[Manufacturer Declaration](#)

[Miscellaneous](#)

#### Further information

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=3VA1116-4FE42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1116-4FE42-0AA0>

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

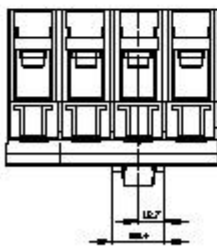
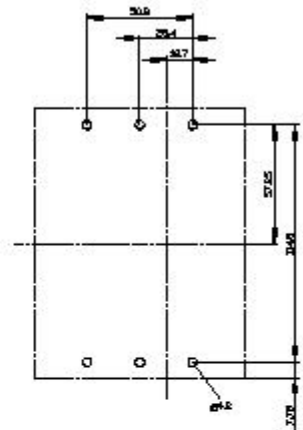
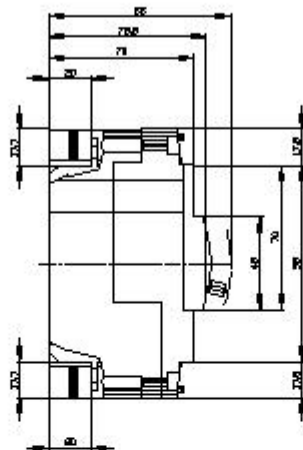
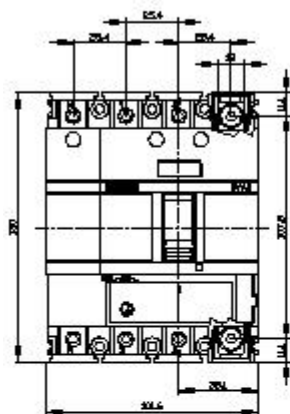
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1116-4FE42-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1116-4FE42-0AA0)

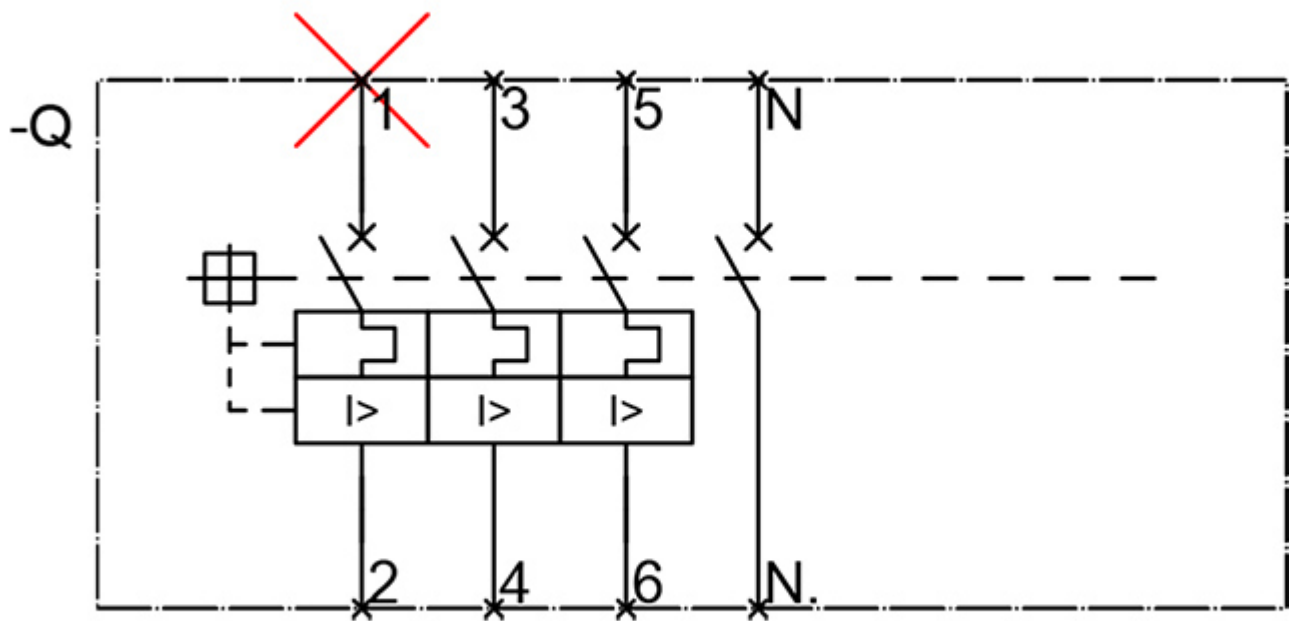
CAX-Online-Generator

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

Tender specifications

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





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