

circuit breaker 3VA1 IEC frame 160 breaking capacity class S  
Icu=36kA @ 415V 3-pole, line protection TM220, ATFM, In=40A  
overload protection Ir=28A...40A short-circuit protection li=10 x In  
clamp connection



| Model                                                                                          |                             |
|------------------------------------------------------------------------------------------------|-----------------------------|
| Product brand name                                                                             | SETRON                      |
| Product designation                                                                            | Molded case circuit breaker |
| Product version                                                                                | Line protection             |
| Design of the overcurrent release                                                              | TM220                       |
| Protective function of the overcurrent release                                                 | LI                          |
| Number of poles                                                                                | 3                           |
| General technical data                                                                         |                             |
| Rated insulation voltage Ui                                                                    | 800 V                       |
| Max. rated operational voltage Ue with AC 50/60Hz                                              | 690 V                       |
| Max. rated operational voltage Ue with DC                                                      | 500 V                       |
| Power loss [W] / maximum                                                                       | 10.8 W                      |
| Active power loss / for rated value of the current / at AC / in hot operating state / per pole | 3.6 W                       |
| Latching - endurance                                                                           | 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                                    | 1.024 kg |

#### Current

|                                                  |       |
|--------------------------------------------------|-------|
| Max. rated operational current of the frame size | 160 A |
| Rated continuous current I <sub>u</sub>          | 40 A  |
| Operating current                                |       |
| • at 40 °C                                       | 40 A  |
| • at 45 °C                                       | 40 A  |
| • at 50 °C                                       | 40 A  |
| • at 55 °C                                       | 39 A  |
| • at 60 °C                                       | 39 A  |
| • at 65 °C                                       | 38 A  |
| • at 70 °C                                       | 37 A  |

#### Switching capacity according to IEC 60947

|                                                                        |                                                                                                                                                                |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Switching capacity class of the circuit breaker                        | S                                                                                                                                                              |
| Maximum short-circuit current breaking capacity (I <sub>cu</sub> )     |                                                                                                                                                                |
| • 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                                                                                                                                                           |
| Operational short-circuit current breaking capacity (I <sub>cs</sub> ) |                                                                                                                                                                |
| • at 240 V                                                             | 55 kA                                                                                                                                                          |
| • at 415 V                                                             | 36 kA                                                                                                                                                          |
| • at 440 V                                                             | 25 kA                                                                                                                                                          |
| • at 500 V                                                             | 5 kA                                                                                                                                                           |
| • at 690 V                                                             | 5 kA                                                                                                                                                           |
| Short-circuit current making capacity (I <sub>cm</sub> )               |                                                                                                                                                                |
| • at 240 V                                                             | 121 kA                                                                                                                                                         |
| • at 415 V                                                             | 76 kA                                                                                                                                                          |
| • at 440 V                                                             | 53 kA                                                                                                                                                          |
| • at 500 V                                                             | 11.9 kA                                                                                                                                                        |
| • at 690 V                                                             | 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

|                                                                         |       |
|-------------------------------------------------------------------------|-------|
| Adjustable response value current / I <sub>r</sub> min.                 | 28 A  |
| Adjustable response value current / I <sub>r</sub> max.                 | 40 A  |
| Short-term delayed / tripping switchable / I <sub>2t</sub> =ON/OFF      | No    |
| Adjustable response value current / I <sub>i</sub> min.                 | 400 A |
| Adjustable response value current / I <sub>i</sub> max.                 | 400 A |
| Ground fault protection / tripping switchable / I <sub>2t</sub> =ON/OFF | No    |

### Mechanical Design

|             |         |
|-------------|---------|
| Height [in] | 5.1 in  |
| Height      | 130 mm  |
| Width [in]  | 3 in    |
| Width       | 76.2 mm |
| Depth [in]  | 2.8 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                    |
| Type of connectable conductor cross-section, round conductor terminal, stranded | 1 x (1.5 - 70 mm <sup>2</sup> ) |

### 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  |

### Certificates

|                                         |   |
|-----------------------------------------|---|
| Reference code / acc. to DIN EN 81346-2 | Q |
|-----------------------------------------|---|

| General Product Approval                                                                 |                                                                                          |                               |                    |                                                                                            | EMC                                                                                        |
|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------|--------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <br>CCC | <br>VDE | <a href="#">Miscellaneous</a> | <a href="#">KC</a> | <br>EAC | <br>RCM |

| Declaration of Conformity                                                                     | Test Certificates                                  |                               |                                          | Shipping Approval                                                                          |                                                                                                       |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <br>EG-Konf. | <a href="#">Type Test Certificates/Test Report</a> | <a href="#">Miscellaneous</a> | <a href="#">Special Test Certificate</a> | <br>ABS | <br>BUREAU VERITAS |

| Shipping Approval                                                                       |                                                                                          |                                                                                           | other                                    |                               |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------|
| <br>GL | <br>LRS | <br>RMRS | <a href="#">Manufacturer Declaration</a> | <a href="#">Miscellaneous</a> |

#### 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=3VA1140-4EE36-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1140-4EE36-0AA0>

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

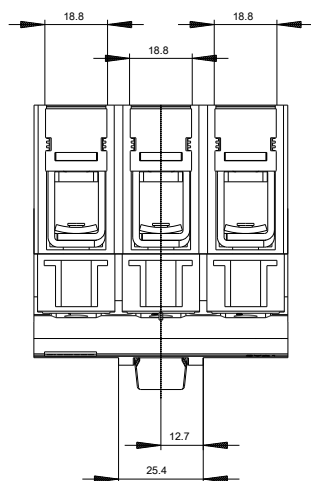
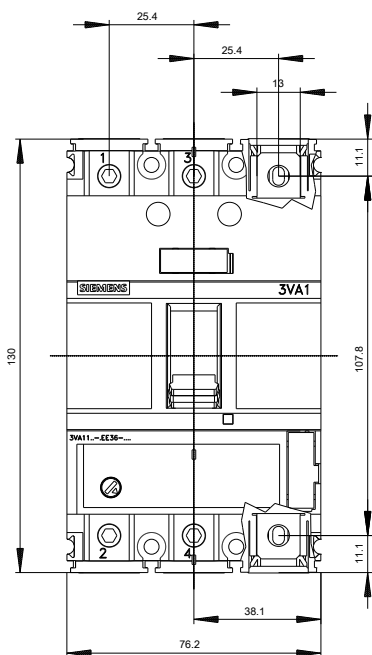
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1140-4EE36-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1140-4EE36-0AA0)

##### CAX-Online-Generator

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

##### Tender specifications

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





last modified:

07/01/2019