

circuit breaker 3VA1 IEC frame 160 breaking capacity class H  
Icu=70kA @ 415V 3-pole, starter protection TM120M, AM, In=80A  
without overload protection short-circuit protection li=7...16 x In nut  
keeper kit



| Model                                                                                          |                             |
|------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                             | SETRON                      |
| product designation                                                                            | Molded case circuit breaker |
| Product version                                                                                | Starter protection          |
| design of the overcurrent release                                                              | TM120M                      |
| protection function of the overcurrent release                                                 | I                           |
| number of poles                                                                                | 3                           |
| General technical data                                                                         |                             |
| Tension assignée d'isolement Ui                                                                | 800 V                       |
| Max. rated operational voltage Ue with AC 50/60Hz                                              | 690 V                       |
| power loss [W] / maximum                                                                       | 14.4 W                      |
| Active power loss / for rated value of the current / at AC / in hot operating state / per pole | 4.8 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      |
| • phase failure detection       | No      |
| • other measurement function    | No      |
| net weight                      | 0.9 kg  |

#### Current

|                                                  |       |
|--------------------------------------------------|-------|
| Max. rated operational current of the frame size | 160 A |
| Courant permanent assigné Iu                     | 80 A  |
| operating current                                |       |
| • at 40 °C                                       | 80 A  |
| • at 45 °C                                       | 80 A  |
| • at 50 °C                                       | 80 A  |
| • at 55 °C                                       | 78 A  |
| • at 60 °C                                       | 77 A  |
| • at 65 °C                                       | 75 A  |
| • at 70 °C                                       | 74 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                                                | 55 kA  |
| • at 500 V                                                | 5 kA   |
| • at 690 V                                                | 5 kA   |
| operational short-circuit current breaking capacity (Ics) |        |
| • at 240 V                                                | 100 kA |
| • at 415 V                                                | 70 kA  |
| • at 440 V                                                | 36 kA  |
| • at 500 V                                                | 5 kA   |
| • at 690 V                                                | 5 kA   |
| short-circuit current making capacity (Icm)               |        |
| • at 240 V                                                | 220 kA |
| • at 415 V                                                | 154 kA |
| • at 440 V                                                | 121 kA |
| • at 500 V                                                | 7.5 kA |
| • at 690 V                                                | 7.5 kA |

#### Adjustable parameters

|                                                       |    |
|-------------------------------------------------------|----|
| Short-term delayed / tripping switchable / I2t=ON/OFF | No |
|-------------------------------------------------------|----|

|                                                            |         |
|------------------------------------------------------------|---------|
| Adjustable response value current / li min.                | 560 A   |
| Adjustable response value current / li max.                | 1 280 A |
| Ground fault protection / tripping switchable / I2t=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 connectable conductor cross-section, connection screw, width x thickness , min. | 12 x 1 mm      |
| Type of connectable conductor cross-section, connection screw, width x thickness , max. | 17 x 6.5 mm    |

#### 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                                                                                             | Declaration of Conformity                                                                  |
|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <br>CCC | <br>VDE | <br>EAC        | <br>RCM |
| <a href="#">Miscellaneous</a>                                                            |                                                                                          | <br>EG-Konf. |                                                                                            |

| Test Certificates             | Shipping Approval                        |                                                                                          | other                                              |
|-------------------------------|------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------|
| <a href="#">Miscellaneous</a> | <a href="#">Special Test Certificate</a> | <a href="#">Type Test Certificates/Test Report</a>                                       | <a href="#">Manufacturer Declaration</a>           |
|                               |                                          | <br>LRS | <a href="#">CCS / China Classification Society</a> |

| other                         |
|-------------------------------|
| <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=3VA1180-6MH32-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1180-6MH32-0AA0>

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

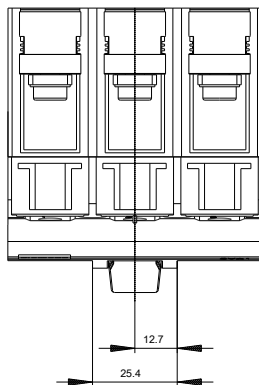
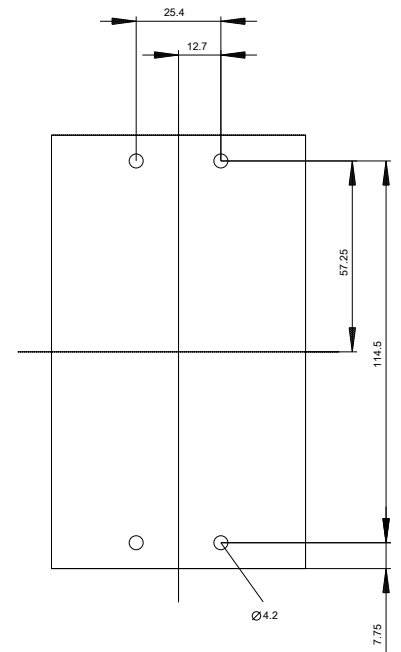
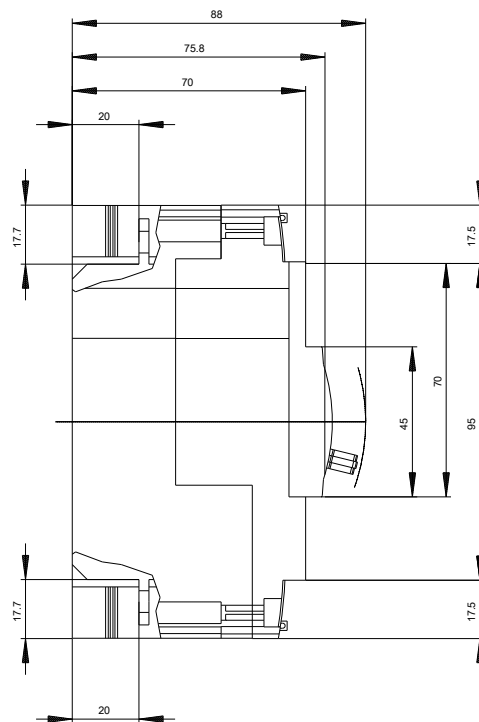
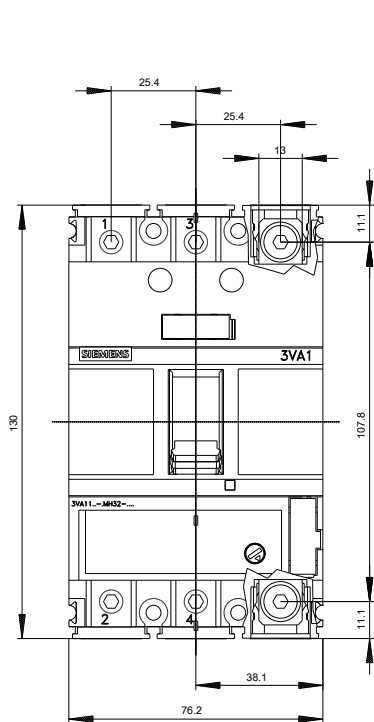
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1180-6MH32-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1180-6MH32-0AA0)

##### CAX-Online-Generator

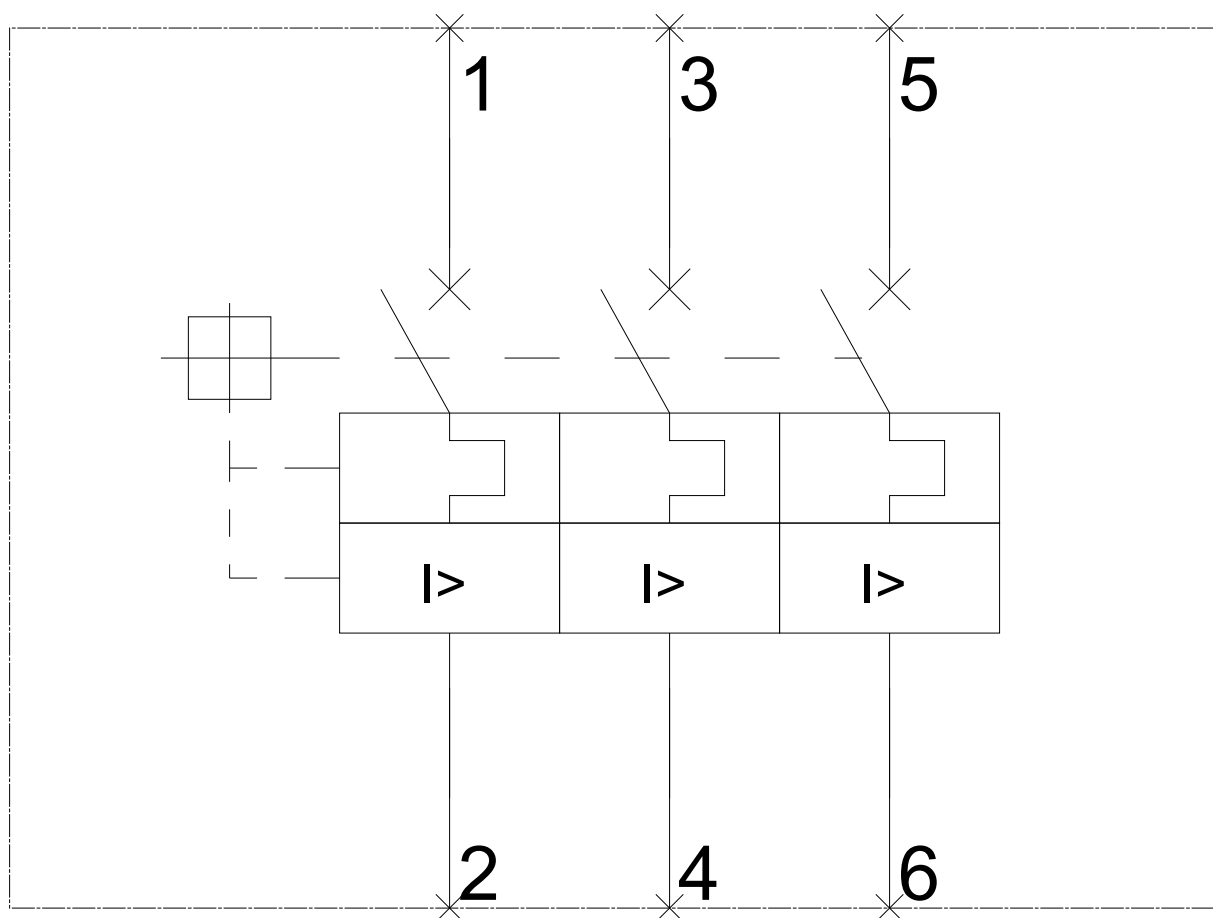
<http://www.siemens.com/cax>

##### Tender specifications

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



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