



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS M ICU=55KA @ 415 V 3-POLE,MOTOR STARTER PROTECTION TM120M, AM, IN=80A WITHOUT OVERLOAD PROTECTION SHORT CIRCUIT PROTECTION II=7...16 X IN CABLE CONNECTION

| Model                                                                                            |                             |
|--------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                               | SENTRON                     |
| Product designation                                                                              | Molded case circuit breaker |
| Design                                                                                           | Starter protection          |
| Design of the overcurrent release                                                                | TM120M                      |
| Protective 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                       |
| Max. rated operational voltage Ue with DC                                                        | 500 V                       |
| Operating power / at AC-3 / at 400 V                                                             | 45 000 W                    |
| Operating power / at AC-3 / at 230 V                                                             | 22 000 W                    |
| Active power loss / for rated value of the current / at AC / in hot operating state / per device | 19.2 W                      |
| Active power loss / for rated value of the current / at AC / in hot operating state / per pole   | 6.4 W                       |
| Mechanical service life (switching cycles) / typical                                             | 15 000                      |

|                                                                           |         |
|---------------------------------------------------------------------------|---------|
| Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz | 8 000   |
| Neutral conductors / upgradeable/retrofitable                             | No      |
| Ground fault monitoring version                                           | Without |
| Net weight                                                                | 0.9 kg  |

#### Electricity

|                                                                   |       |
|-------------------------------------------------------------------|-------|
| Max. rated operational voltage of the size of the circuit-breaker | 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

|                                                           |         |
|-----------------------------------------------------------|---------|
| Switching capacity class of the circuit breaker           | M       |
| Maximum short-circuit current breaking capacity (Icu)     |         |
| • at 240 V                                                | 85 kA   |
| • at 415 V                                                | 55 kA   |
| • at 440 V                                                | 36 kA   |
| • at 690 V                                                | 5 kA    |
| Operational short-circuit current breaking capacity (Ics) |         |
| • at 240 V                                                | 85 kA   |
| • at 415 V                                                | 55 kA   |
| • at 440 V                                                | 36 kA   |
| • at 690 V                                                | 5 kA    |
| Short-circuit current making capacity (Icm)               |         |
| • at 240 V                                                | 187 kA  |
| • at 415 V                                                | 121 kA  |
| • at 440 V                                                | 75.6 kA |
| • at 690 V                                                | 8.5 kA  |

#### Adjustable parameters

|                                                            |         |
|------------------------------------------------------------|---------|
| Short-term delayed / tripping switchable / I2t=ON/OFF      | No      |
| Adjustable response value current / Ii min.                | 560 A   |
| Adjustable response value current / Ii max.                | 1 280 A |
| Ground fault protection / tripping switchable / I2t=ON/OFF | No      |

| Mechanical Design |         |
|-------------------|---------|
| Height            | 130 mm  |
| Width             | 76.2 mm |
| 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 mm²) |

| Auxiliary circuit                                   |   |
|-----------------------------------------------------|---|
| Number of auxiliary contacts as changeover contacts | 0 |

| Accessories                                |     |
|--------------------------------------------|-----|
| Product expansion / 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                               |   |
|--------------------------------------------|---|
| Equipment marking / acc. to DIN EN 81346-2 | Q |

| General Product Approval | EMC | Declaration of Conformity | other |
|--------------------------|-----|---------------------------|-------|
|--------------------------|-----|---------------------------|-------|



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## 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/3VA11805MH360AA0>

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

<http://support.automation.siemens.com/WW/view/en/3VA11805MH360AA0/all>

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

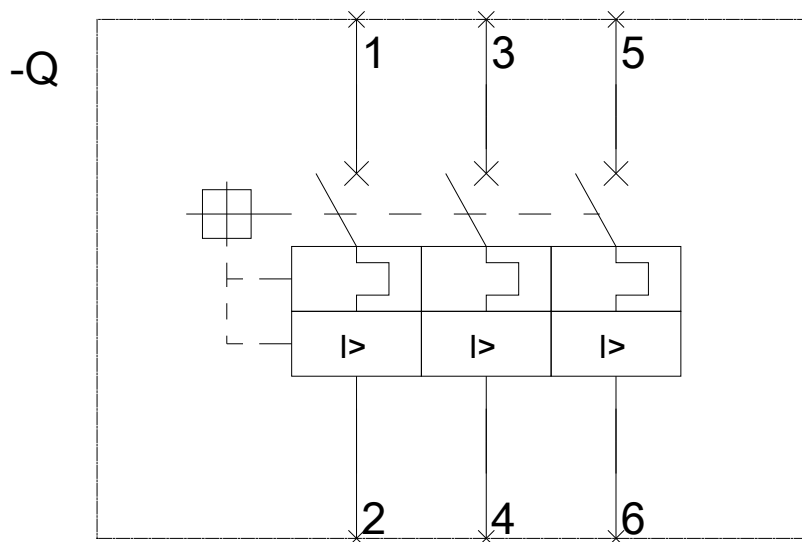
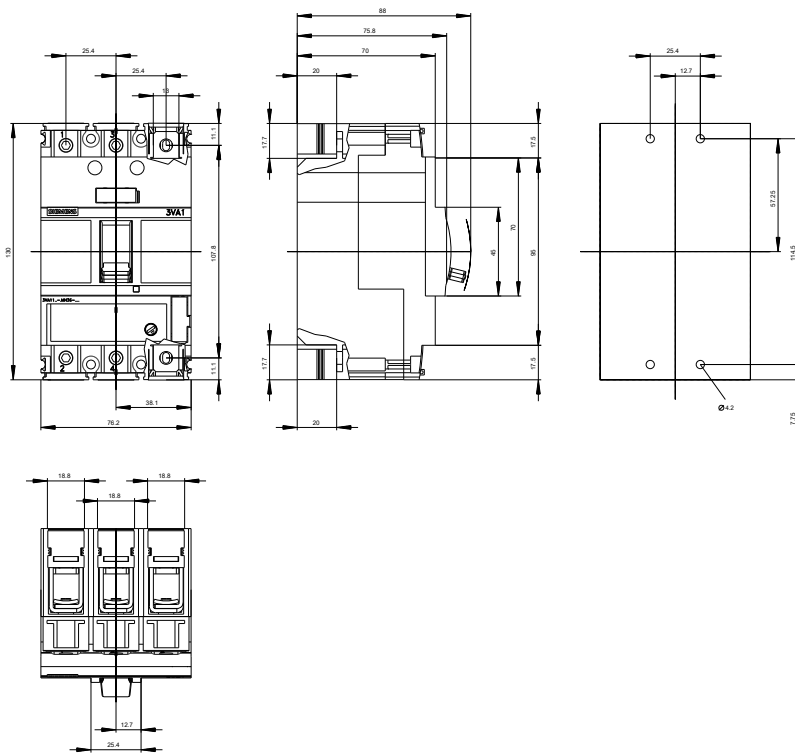
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA11805MH360AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA11805MH360AA0)

### CAX-Online-Generator

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

### Tender specifications

<http://ausschreibungstexte.siemens.com/tiplv>



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