



circuit breaker 3VA1 IEC Frame 160 breaking capacity class S  $I_{cu}=36 \text{ kA} @ 415 \text{ V}$   
2-pole, line protection TM210, FTFM,  $I_n=20 \text{ A}$  overload protection  $I_r=20 \text{ A}$   
permanently set short-circuit protection  $I_i=16 \times I_n$  terminal connection

| Model                                                                                                 |                             |
|-------------------------------------------------------------------------------------------------------|-----------------------------|
| product brand name                                                                                    | SENTRON                     |
| product designation                                                                                   | Molded case circuit breaker |
| design of the product                                                                                 | Line protection             |
| design of the overcurrent release                                                                     | TM210                       |
| protection function of the overcurrent release                                                        | LI                          |
| number of poles                                                                                       | 2                           |
| General technical data                                                                                |                             |
| insulation voltage / rated value                                                                      | 500 V                       |
| operating voltage / at DC / rated value                                                               | 250 V                       |
| operating voltage / at AC / rated value                                                               | 415 V                       |
| power loss [W] / maximum                                                                              | 8 W                         |
| mechanical service life (operating cycles) / typical                                                  | 20 000                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                      | 9 000                       |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                          | 6 300                       |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof | No                          |
| ground-fault monitoring version                                                                       | Without                     |
| product function                                                                                      |                             |
| • communication function                                                                              | No                          |
| • other measurement function                                                                          | No                          |
| Net Weight                                                                                            | 0.687 kg                    |
| Current                                                                                               |                             |
| operational current                                                                                   |                             |
| • at 40 °C                                                                                            | 20 A                        |
| • at 45 °C                                                                                            | 20 A                        |
| • at 50 °C                                                                                            | 20 A                        |
| • at 55 °C                                                                                            | 20 A                        |
| • at 60 °C                                                                                            | 19 A                        |
| • at 65 °C                                                                                            | 19 A                        |
| • at 70 °C                                                                                            | 19 A                        |
| Switching capacity according to IEC 60947                                                             |                             |
| switching capacity class of the circuit breaker                                                       | S                           |
| maximum short-circuit current breaking capacity ( $I_{cu}$ )                                          |                             |
| • at 240 V                                                                                            | 55 kA                       |
| • at 415 V                                                                                            | 36 kA                       |
| operating short-circuit current breaking capacity ( $I_{cs}$ )                                        |                             |
| • at 240 V                                                                                            | 55 kA                       |
| • at 415 V                                                                                            | 36 kA                       |

|                                                                                                                   |                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| short-circuit current making capacity (I <sub>cm</sub> )                                                          |                                                                                                                                                                |
| • at 240 V                                                                                                        | 121 kA                                                                                                                                                         |
| • at 415 V                                                                                                        | 75.5 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>                                                                                      |                                                                                                                                                                |
| product feature / for L-tripping / can be switched on/off                                                         | No                                                                                                                                                             |
| adjustable response value setting current (I <sub>r</sub> ) / of the L-trip / with I <sub>2t</sub> characteristic |                                                                                                                                                                |
| • minimum                                                                                                         | 20 A                                                                                                                                                           |
| • maximum                                                                                                         | 20 A                                                                                                                                                           |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic     |                                                                                                                                                                |
| • minimum                                                                                                         | 1 s                                                                                                                                                            |
| • maximum                                                                                                         | 1 s                                                                                                                                                            |
| adjustable response value setting current (I <sub>l</sub> ) / for I-tripping                                      |                                                                                                                                                                |
| • minimum                                                                                                         | 320 A                                                                                                                                                          |
| • maximum                                                                                                         | 320 A                                                                                                                                                          |
| adjustable setting current (I <sub>N</sub> ) / for N-tripping                                                     |                                                                                                                                                                |
| • minimum                                                                                                         | 0 A                                                                                                                                                            |
| • maximum                                                                                                         | 0 A                                                                                                                                                            |
| product function / grounding protection                                                                           | No                                                                                                                                                             |
| <b>Mechanical Design</b>                                                                                          |                                                                                                                                                                |
| product component                                                                                                 |                                                                                                                                                                |
| • undervoltage release                                                                                            | No                                                                                                                                                             |
| • voltage trigger                                                                                                 | No                                                                                                                                                             |
| • trip indicator                                                                                                  | No                                                                                                                                                             |
| height [in]                                                                                                       | 5.12 in                                                                                                                                                        |
| height                                                                                                            | 130 mm                                                                                                                                                         |
| width [in]                                                                                                        | 2 in                                                                                                                                                           |
| type of connectable conductor cross-sections / of the round conductor terminal / stranded                         | 1 x (1,5 - 70 mm <sup>2</sup> )                                                                                                                                |
| width                                                                                                             | 50.8 mm                                                                                                                                                        |
| depth [in]                                                                                                        | 2.76 in                                                                                                                                                        |
| depth                                                                                                             | 70 mm                                                                                                                                                          |
| <b>Connections</b>                                                                                                |                                                                                                                                                                |
| arrangement of electrical connectors / for main current circuit                                                   | Front terminal                                                                                                                                                 |
| type of electrical connection / for main current circuit                                                          | box terminal on both sides                                                                                                                                     |
| design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)                                | Silver                                                                                                                                                         |
| design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)                             | Tin                                                                                                                                                            |
| <b>Auxiliary circuit</b>                                                                                          |                                                                                                                                                                |
| number of CO contacts / for auxiliary contacts                                                                    | 0                                                                                                                                                              |
| <b>Accessories</b>                                                                                                |                                                                                                                                                                |
| product extension / optional / motor drive                                                                        | No                                                                                                                                                             |
| <b>Environmental conditions</b>                                                                                   |                                                                                                                                                                |
| 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                                                                                                                                                          |
| <b>Environmental footprint</b>                                                                                    |                                                                                                                                                                |
| Environmental Product Declaration (EPD)                                                                           | Yes                                                                                                                                                            |
| global warming potential [CO <sub>2</sub> eq] / total                                                             | 126 kg                                                                                                                                                         |
| global warming potential [CO <sub>2</sub> eq] / during manufacturing                                              | 2.72 kg                                                                                                                                                        |
| global warming potential [CO <sub>2</sub> eq] / during operation                                                  | 124 kg                                                                                                                                                         |
| global warming potential [CO <sub>2</sub> eq] / after end of life                                                 | -0.365 kg                                                                                                                                                      |
| reference code / according to IEC 81346-2                                                                         | Q                                                                                                                                                              |

## Approvals / Certificates

### General Product Approval



[Miscellaneous](#)



### General Product Approval

### EMV

### Test Certificates

[Confirmation](#)



EG-Konf.



RCM

[Miscellaneous](#)

[Special Test Certificate](#)

### Test Certificates

### Maritime application

### other

[Type Test Certificates/Test Report](#)



DNV

[CCS \(China Classification Society\)](#)

[Miscellaneous](#)

[Confirmation](#)

### other

### Environment



[Environmental Confirmations](#)

[Environmental Confirmations](#)



## Further information

### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

### Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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

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

### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA1120-4ED26-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1120-4ED26-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1120-4ED26-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1120-4ED26-0AA0)

### CAX-Online-Generator

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

### Tender specifications

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

### Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP='HAUPT'></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>)





