

**Siemens**  
**EcoTech**



circuit breaker 3VA2 IEC Frame 100 breaking capacity class L Icu=150 kA @ 415 V 4-pole, line protection ETU860, LSIG, In=40 A overload protection Ir=16 A...40 A short-circuit protection Isd=0.6..10x In, li=1.5..12x In neutral conductor protection adjustable (OFF, up to 160%) ground-fault protection, can be switched off Ig=0.4...1 x In= tg=0.05-0.8s terminal connection



| Model                                                                                                 |                                             |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------|
| product brand name                                                                                    | SENTRON                                     |
| product designation                                                                                   | Molded case circuit breaker                 |
| design of the product                                                                                 | Line protection                             |
| design of the overcurrent release                                                                     | ETU860                                      |
| protection function of the overcurrent release                                                        | LSIG                                        |
| number of poles                                                                                       | 4                                           |
| General technical data                                                                                |                                             |
| insulation voltage / rated value                                                                      | 800 V                                       |
| operating voltage / at AC / rated value                                                               | 690 V                                       |
| power loss [W] / maximum                                                                              | 1.2 W                                       |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole           | 0.4 W                                       |
| mechanical service life (operating cycles) / typical                                                  | 25 000                                      |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                      | 15 000                                      |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                          | 10 500                                      |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof | No                                          |
| ground-fault monitoring version                                                                       | Summation current formation L + N conductor |
| product function                                                                                      |                                             |
| • communication function                                                                              | Yes                                         |
| • other measurement function                                                                          | Yes                                         |
| Net Weight                                                                                            | 3.2 kg                                      |
| Current                                                                                               |                                             |
| operational current                                                                                   |                                             |
| • at 40 °C                                                                                            | 40 A                                        |
| • at 45 °C                                                                                            | 40 A                                        |
| • at 50 °C                                                                                            | 40 A                                        |
| • at 55 °C                                                                                            | 40 A                                        |
| • at 60 °C                                                                                            | 40 A                                        |
| • at 65 °C                                                                                            | 40 A                                        |
| • at 70 °C                                                                                            | 40 A                                        |
| Switching capacity according to IEC 60947                                                             |                                             |
| switching capacity class of the circuit breaker                                                       | L                                           |
| maximum short-circuit current breaking capacity (Icu)                                                 |                                             |
| • at 240 V                                                                                            | 200 kA                                      |

|                                                         |         |
|---------------------------------------------------------|---------|
| • at 415 V                                              | 150 kA  |
| • at 440 V                                              | 150 kA  |
| • at 500 V                                              | 100 kA  |
| • at 690 V                                              | 25 kA   |
| operating short-circuit current breaking capacity (Ics) |         |
| • at 240 V                                              | 200 kA  |
| • at 415 V                                              | 150 kA  |
| • at 440 V                                              | 150 kA  |
| • at 500 V                                              | 100 kA  |
| • at 690 V                                              | 18 kA   |
| short-circuit current making capacity (Icm)             |         |
| • at 240 V                                              | 440 kA  |
| • at 415 V                                              | 330 kA  |
| • at 440 V                                              | 330 kA  |
| • at 500 V                                              | 220 kA  |
| • at 690 V                                              | 52.5 kA |

#### Adjustable parameters

|                                                                                           |        |
|-------------------------------------------------------------------------------------------|--------|
| product feature / for L-tripping / can be switched on/off                                 | No     |
| adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic  |        |
| • minimum                                                                                 | 16 A   |
| • maximum                                                                                 | 40 A   |
| adjustable response value delay time (tr) / for L-tripping / with I2t characteristic      |        |
| • minimum                                                                                 | 0.5 s  |
| • maximum                                                                                 | 25 s   |
| adjustable response value setting current (Isd) / of S-trip / with I0t characteristic     |        |
| • minimum                                                                                 | 24 A   |
| • maximum                                                                                 | 400 A  |
| adjustable response value setting current (Isd) / of S-trip / with I2t characteristic     |        |
| • minimum                                                                                 | 24 A   |
| • maximum                                                                                 | 400 A  |
| adjustable response value delay time (tsd) / for S-tripping / with I0t characteristic     |        |
| • minimum                                                                                 | 0.05 s |
| • maximum                                                                                 | 0.5 s  |
| adjustable response value delay time (tsd) / for S-tripping / with I2t characteristic     |        |
| • minimum                                                                                 | 0.05 s |
| • maximum                                                                                 | 0.5 s  |
| adjustable response value setting current (Ii) / for I-tripping                           |        |
| • minimum                                                                                 | 60 A   |
| • maximum                                                                                 | 480 A  |
| adjustable current response value current / for G-tripping / with standard characteristic |        |
| • initial value                                                                           | 16 A   |
| • full-scale value                                                                        | 40 A   |
| adjustable response value delay time (tg) / for G-tripping / with I0t characteristic      |        |
| • minimum                                                                                 | 0.05 s |
| • maximum                                                                                 | 0.8 s  |
| adjustable response value setting current (Ig) / for G-tripping / with I2t characteristic |        |
| • minimum                                                                                 | 16 A   |
| • maximum                                                                                 | 40 A   |
| adjustable response value delay time (tg) / for G-tripping / with I2t characteristic      |        |
| • minimum                                                                                 | 0.05 s |
| • maximum                                                                                 | 0.8 s  |
| adjustable setting current (InN) / for N-tripping                                         |        |

|                                         |                             |
|-----------------------------------------|-----------------------------|
| • minimum                               | 16 A                        |
| • maximum                               | 64 A                        |
| design of the N-conductor protection    | adjustable OFF; 40% to 160% |
| product function / grounding protection | Yes                         |

#### Mechanical Design

|                                                                                           |                   |
|-------------------------------------------------------------------------------------------|-------------------|
| product component                                                                         |                   |
| • undervoltage release                                                                    | No                |
| • voltage trigger                                                                         | No                |
| • trip indicator                                                                          | No                |
| height [in]                                                                               | 7.13 in           |
| height                                                                                    | 181 mm            |
| width [in]                                                                                | 5.51 in           |
| type of connectable conductor cross-sections / of the round conductor terminal / stranded | 1 x (6 - 120 mm²) |
| width                                                                                     | 140 mm            |
| depth [in]                                                                                | 3.39 in           |
| depth                                                                                     | 86 mm             |

#### Connections

|                                                                                       |                           |
|---------------------------------------------------------------------------------------|---------------------------|
| arrangement of electrical connectors / for main current circuit                       | Front terminal            |
| type of electrical connection / for main current circuit                              | double-sided box terminal |
| design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)    | tin                       |
| design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) | tin                       |

#### 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  |

#### Environmental footprint

|                                                          |                 |
|----------------------------------------------------------|-----------------|
| global warming potential [CO2 eq] / total                | 61.814 kg       |
| global warming potential [CO2 eq] / during manufacturing | 14.6 kg         |
| global warming potential [CO2 eq] / during operation     | 48.9 kg         |
| global warming potential [CO2 eq] / after end of life    | -2.2 kg         |
| Siemens Eco Profile (SEP)                                | Siemens EcoTech |
| reference code / according to IEC 81346-2                | Q               |

#### Approvals / Certificates

##### General Product Approval



[Confirmation](#)



[Miscellaneous](#)

##### General Product Approval

##### EMV

##### Test Certificates



[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

#### Maritime application



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

other

Dangerous goods

Environment



[Confirmation](#)

[Miscellaneous](#)

[Transport Information](#)



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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=3VA2040-8KQ46-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA2040-8KQ46-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA2040-8KQ46-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA2040-8KQ46-0AA0)

CAX-Online-Generator

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

Tender specifications

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





