

**Siemens**  
**EcoTech**



circuit breaker 3VA6 UL Frame 150 breaking capacity class H 65 kA @ 480 V 3-pole, line protection ETU830, LIG, In=40 A overload protection Ir=16 A...40 A short-circuit protection Ii=1.5...12 x In ground-fault protection Ig=0.375...1 x In, tg=0.05-0.8s without connection



| Model                                                                                                                      |                                         |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| product brand name                                                                                                         | SETRON                                  |
| product designation                                                                                                        | Molded-case circuit breaker             |
| product designation / according to UL file                                                                                 | HDAE                                    |
| design of the product                                                                                                      | System protection                       |
| design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type) | Yes                                     |
| design of the overcurrent release                                                                                          | ETU830                                  |
| protection function of the overcurrent release                                                                             | LIG                                     |
| number of poles                                                                                                            | 3                                       |
| General technical data                                                                                                     |                                         |
| insulation voltage / rated value                                                                                           | 800 V                                   |
| operating voltage / at AC / rated value                                                                                    | 690 V                                   |
| power loss [W] / maximum                                                                                                   | 2.4 W                                   |
| power loss [W] / for rated value of the current / at AC / in hot operating state / per pole                                | 0.8 W                                   |
| mechanical service life (operating cycles) / typical                                                                       | 25 000                                  |
| electrical endurance (operating cycles) / at AC-1 / at 380/415 V                                                           | 14 000                                  |
| electrical endurance (operating cycles) / at AC-1 / at 690 V                                                               | 9 800                                   |
| electrical endurance (operating cycles) / at 480 V                                                                         | 14 000                                  |
| electrical endurance (operating cycles) / at 600 V                                                                         | 9 800                                   |
| product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof                      | No                                      |
| ground-fault monitoring version                                                                                            | Summation current formation L-conductor |
| product function                                                                                                           |                                         |
| • communication function                                                                                                   | Yes                                     |
| • other measurement function                                                                                               | Yes                                     |
| Net Weight                                                                                                                 | 2.5 kg                                  |
| Current                                                                                                                    |                                         |
| marking / according to UL 489 / 100%-rated breaker                                                                         | No                                      |
| 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    |
| <b>Switching capacity according to IEC 60947</b>                                                                   |         |
| switching capacity class of the circuit breaker                                                                    | H       |
| maximum short-circuit current breaking capacity (I <sub>cu</sub> )                                                 |         |
| • at 240 V                                                                                                         | 110 kA  |
| • at 415 V                                                                                                         | 85 kA   |
| • at 690 V                                                                                                         | 2.5 kA  |
| operating short-circuit current breaking capacity (I <sub>cs</sub> )                                               |         |
| • at 240 V                                                                                                         | 110 kA  |
| • at 415 V                                                                                                         | 85 kA   |
| • at 690 V                                                                                                         | 2.5 kA  |
| short-circuit current making capacity (I <sub>cm</sub> )                                                           |         |
| • at 240 V                                                                                                         | 242 kA  |
| • at 415 V                                                                                                         | 187 kA  |
| • at 690 V                                                                                                         | 3.8 kA  |
| <b>Switching capacity according to UL 489</b>                                                                      |         |
| current breaking capacity                                                                                          |         |
| • at 240 V                                                                                                         | 100 kA  |
| • at 480 V                                                                                                         | 65 kA   |
| • at 600 V                                                                                                         | 22 kA   |
| <b>Adjustable parameters</b>                                                                                       |         |
| adjustable response value setting current (I <sub>r</sub> ) / of the L-trip / with I <sub>2t</sub> characteristic  |         |
| • minimum                                                                                                          | 15 A    |
| • maximum                                                                                                          | 40 A    |
| adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic      |         |
| • minimum                                                                                                          | 0.5 s   |
| • maximum                                                                                                          | 25 s    |
| adjustable response value setting current (I <sub>I</sub> ) / for I-tripping                                       |         |
| • minimum                                                                                                          | 60 A    |
| • maximum                                                                                                          | 480 A   |
| adjustable current response value current / for G-tripping / with standard characteristic                          |         |
| • initial value                                                                                                    | 15 A    |
| • full-scale value                                                                                                 | 40 A    |
| adjustable response value delay time (t <sub>g</sub> ) / for G-tripping / with I <sub>0t</sub> characteristic      |         |
| • minimum                                                                                                          | 0.05 s  |
| • maximum                                                                                                          | 0.8 s   |
| adjustable response value setting current (I <sub>g</sub> ) / for G-tripping / with I <sub>2t</sub> characteristic |         |
| • minimum                                                                                                          | 15 A    |
| • maximum                                                                                                          | 40 A    |
| adjustable response value delay time (t <sub>g</sub> ) / for G-tripping / with I <sub>2t</sub> characteristic      |         |
| • minimum                                                                                                          | 0.05 s  |
| • maximum                                                                                                          | 0.8 s   |
| adjustable setting current (I <sub>N</sub> ) / for N-tripping                                                      |         |
| • minimum                                                                                                          | 0 A     |
| • maximum                                                                                                          | 0 A     |
| product function / grounding protection                                                                            | Yes     |
| <b>Mechanical Design</b>                                                                                           |         |
| product component                                                                                                  |         |
| • undervoltage release                                                                                             | No      |
| • voltage trigger                                                                                                  | No      |
| • trip indicator                                                                                                   | No      |
| height [in]                                                                                                        | 7.8 in  |
| height                                                                                                             | 198 mm  |
| width [in]                                                                                                         | 4.13 in |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| width                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 105 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                        |
| depth [in]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3.39 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                        |
| depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 86 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                        |
| Connections                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
| arrangement of electrical connectors / for main current circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Without connection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                        |
| type of electrical connection / for main current circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Without                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                        |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
| Environmental Product Declaration(EPD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                        |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
| <div><div><br/>CCC</div><div><br/>EG-Konf.</div><div></div><div><br/>UL</div><div><br/>UL</div><div><br/>VDE</div></div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
| General Product Approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | EMV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Maritime application                                                   |
| <a href="#">Miscellaneous</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div><div></div><div></div><div><br/>RCM</div><div><br/>ABS</div><div></div></div> |                                                                        |
| Maritime application                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | other                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Dangerous goods                                                        |
| <div><div><br/>DNV</div><div><br/>LRS</div><div><br/>RMRS</div></div>                                                                                                                                                                                                                                                                                                                 | <a href="#">Confirmation</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <a href="#">Miscellaneous</a><br><a href="#">Transport Information</a> |
| Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
| <div><div></div><div></div><div></div></div>                                                                                                                                                                                                                                                                                                                                          | <a href="#">Environmental Confirmations</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                        |
| Further information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
| Information on the packaging<br><a href="https://support.industry.siemens.com/cs/ww/en/view/109813875">https://support.industry.siemens.com/cs/ww/en/view/109813875</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
| Information for data generation and storage<br><a href="https://support.industry.siemens.com/cs/ww/en/view/109995012">https://support.industry.siemens.com/cs/ww/en/view/109995012</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
| 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=3VA6140-6KM31-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6140-6KM31-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6140-6KM31-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6140-6KM31-0AA0)

CAX-Online-Generator

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

Tender specifications

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





