

Siemens  
EcoTech



circuit breaker 3VA2 IEC Frame 160 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 I<sub>sd</sub>=0.6..10x I<sub>n</sub>, I<sub>li</sub>=1.5..12x I<sub>n</sub> neutral conductor protection adjustable (OFF, up to 160%) ground-fault protection, can be switched off I<sub>g</sub>=0.4...1 x I<sub>n</sub>= 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	14 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	9 800
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	3.145 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 (I <sub>cu</sub> )	
• at 240 V	200 kA
• at 415 V	150 kA
• at 440 V	150 kA

<ul style="list-style-type: none"> <li>• at 500 V</li> <li>• at 690 V</li> </ul>	<p>100 kA</p> <p>25 kA</p>
operating short-circuit current breaking capacity (Ics)	
<ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul>	<p>200 kA</p> <p>150 kA</p> <p>150 kA</p> <p>100 kA</p> <p>18 kA</p>
short-circuit current making capacity (Icm)	
<ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul>	<p>440 kA</p> <p>330 kA</p> <p>330 kA</p> <p>220 kA</p> <p>52.5 kA</p>

**Adjustable parameters**

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	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>16 A</p> <p>40 A</p>
adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>0.5 s</p> <p>25 s</p>
adjustable response value setting current (I <sub>sd</sub> ) / of S-trip / with I <sub>0t</sub> characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>24 A</p> <p>400 A</p>
adjustable response value setting current (I <sub>sd</sub> ) / of S-trip / with I <sub>2t</sub> characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>24 A</p> <p>400 A</p>
adjustable response value delay time (t <sub>sd</sub> ) / for S-tripping / with I <sub>0t</sub> characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>0.05 s</p> <p>0.5 s</p>
adjustable response value delay time (t <sub>sd</sub> ) / for S-tripping / with I <sub>2t</sub> characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>0.05 s</p> <p>0.5 s</p>
adjustable response value setting current (I <sub>i</sub> ) / for I-tripping	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>60 A</p> <p>480 A</p>
adjustable current response value current / for G-tripping / with standard characteristic	
<ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	<p>16 A</p> <p>40 A</p>
adjustable response value delay time (t <sub>g</sub> ) / for G-tripping / with I <sub>0t</sub> characteristic	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	<p>0.8 s</p>
adjustable response value setting current (I <sub>g</sub> ) / for G-tripping / with I <sub>2t</sub> characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>16 A</p> <p>40 A</p>
adjustable response value delay time (t <sub>g</sub> ) / for G-tripping / with I <sub>2t</sub> characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>0.05 s</p> <p>0.8 s</p>
adjustable setting current (I <sub>nN</sub> ) / for N-tripping	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>16 A</p> <p>64 A</p>
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 mm <sup>2</sup> )
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
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### Accessories

product extension / optional / motor drive	Yes
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### 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	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other
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[CCS \(China Classification Society\)](#)

[Miscellaneous](#)

other	Dangerous goods	Environment
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## Environment

[Environmental Con-  
firmations](#)

## Further information

### Information on the packaging

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

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

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

### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA2140-8KQ46-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA2140-8KQ46-0AA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA2140-8KQ46-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA2140-8KQ46-0AA0)

### CAX-Online-Generator

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

### Tender specifications

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





