



circuit breaker 3VA6 UL Frame 1000 breaking capacity class H 65 kA @ 480 V 4-pole, line protection ETU330, LIG,  $I_n=1000$  A overload protection  $I_r=400$  A ...1000 A short-circuit protection  $i_i=1.5...10 \times I_n$  neutral conductor protection adjustable (OFF, 50%, 100%) ground-fault protection  $I_G=0.2... 1 \times I_n$ ,  $t_g=0.1/0.3$ s cable connection on two sides

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	HMNAE
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	ETU330
protection function of the overcurrent release	LIG
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	330 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	110 W
mechanical service life (operating cycles) / typical	10 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	4 900
electrical endurance (operating cycles) / at AC-1 / at 690 V	3 400
electrical endurance (operating cycles) / at 480 V	4 900
electrical endurance (operating cycles) / at 600 V	3 400
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	No
• other measurement function	No
Net Weight	23.298 kg
Current	
marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	1 000 A
• at 45 °C	940 A
• at 50 °C	880 A
• at 55 °C	840 A
• at 60 °C	800 A
• at 65 °C	750 A
• at 70 °C	700 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	H
maximum short-circuit current breaking capacity (I <sub>cu</sub> )	

<ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 690 V</li> </ul>	110 kA 85 kA 35 kA
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 690 V</li> </ul>	110 kA 85 kA 19 kA
short-circuit current making capacity (Icm)	
<ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 690 V</li> </ul>	242 kA 187 kA 74 kA

#### Switching capacity according to UL 489

current breaking capacity	
<ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 480 V</li> <li>• at 600 V</li> </ul>	150 kA 65 kA 35 kA

#### Adjustable parameters

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>	400 A 1 000 A
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>	0.5 s 17 s
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>	1 500 A 10 000 A
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>	200 A 1 000 A
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>• minimum</li> <li>• maximum</li> </ul>	0.1 s 0.3 s
adjustable setting current (I <sub>nN</sub> ) / for N-tripping	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	500 A 1 000 A
design of the N-conductor protection	adjustable OFF; 50%; 100%
product function / grounding protection	Yes

#### Mechanical Design

product component	
<ul style="list-style-type: none"> <li>• undervoltage release</li> <li>• voltage trigger</li> <li>• trip indicator</li> </ul>	No No No
height [in]	12.91 in
height	328 mm
width [in]	11.02 in
type of connectable conductor cross-sections / of the round conductor terminal / stranded	4 x (4/0 - 500 kcmil)
width	280 mm
depth [in]	4.72 in
depth	120 mm

#### Connections

arrangement of electrical connectors / for main current circuit	Front connection
type of electrical connection / for main current circuit	circular conductor terminal on both sides

#### Auxiliary circuit

number of CO contacts / for auxiliary contacts	0
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#### Accessories

product extension / optional / motor drive	No
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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
reference code / according to IEC 81346-2	Q

**Approvals / Certificates**

**General Product Approval**



[Confirmation](#)



**General Product Approval**

**EMV**

**Test Certificates**

**Marine / Shipping**

[Miscellaneous](#)



[Type Test Certificates/Test Report](#)



**Marine / Shipping**

**other**



[Miscellaneous](#)

[Confirmation](#)

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**Dangerous goods**

**Environment**

[Transport Information](#)

[Environmental Confirmations](#)

**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=3VA6610-6HM46-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6610-6HM46-0AA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6610-6HM46-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6610-6HM46-0AA0)

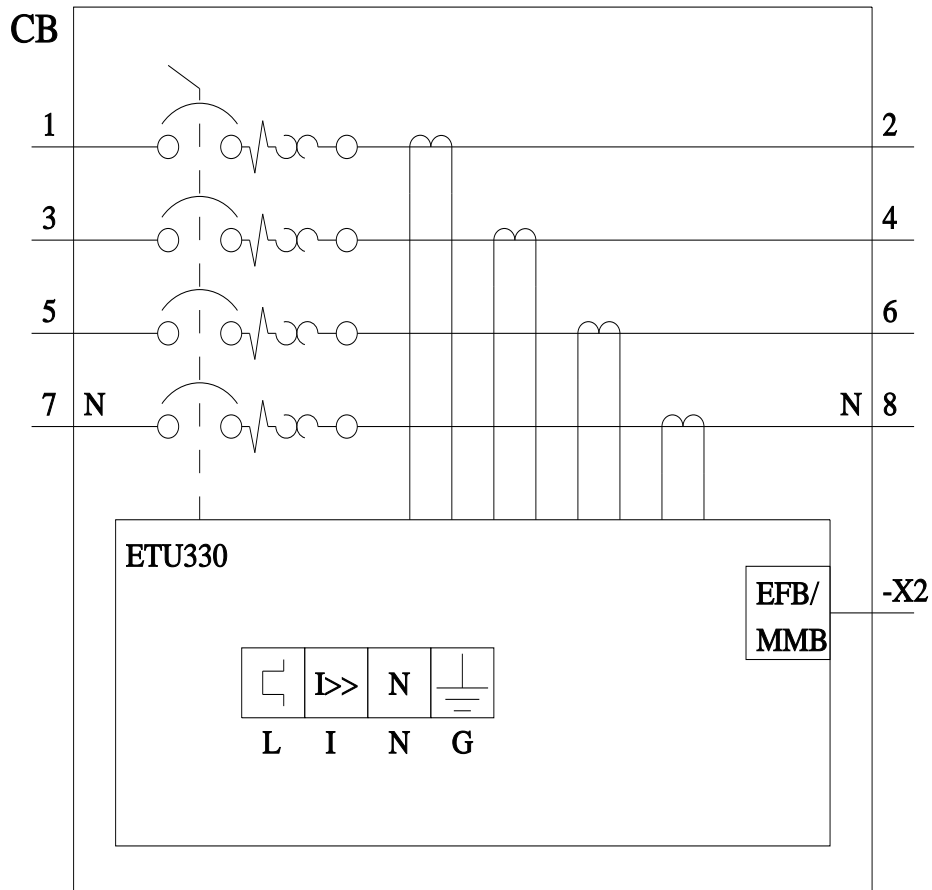
**CAx-Online-Generator**

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

**Tender specifications**

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





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