



circuit breaker 3VA6 UL frame 1600 breaking capacity class C 100kA @ 480 V 3-pole, line protection ETU360, LSIG, In=1600A 100%-rated, overload protection Ir=600A - 1600A short circuit protection I<sub>sd</sub>=1,5-10x I<sub>n</sub>, I<sub>i</sub>=1,5-7,5x I<sub>n</sub> w/o connection

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	CPAE
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	ETU360
protection function of the overcurrent release	LSIG
number of poles	3
General technical data	
insulation voltage / rated value	800 V
operating voltage / at AC / rated value	600 V
power loss [W] / maximum	433 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	433 W
mechanical service life (operating cycles) / typical	3 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	1 500
electrical endurance (operating cycles) / at AC-1 / at 690 V	500
electrical endurance (operating cycles) / at 480 V	1 500
electrical endurance (operating cycles) / at 600 V	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	No
• other measurement function	No
Net Weight	23.9 kg
Current	
marking / according to UL 489 / 100%-rated breaker	Yes
operational current	
• at 40 °C	1 600 A
• at 45 °C	1 600 A
• at 50 °C	1 600 A
• at 55 °C	1 568 A
• at 60 °C	1 536 A
• at 65 °C	1 504 A
• at 70 °C	1 472 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	C
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>	<p>200 kA</p> <p>110 kA</p> <p>35 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 690 V</li> </ul>	<p>100 kA</p> <p>55 kA</p> <p>17 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 690 V</li> </ul>	<p>440 kA</p> <p>242 kA</p> <p>77 kA</p>

#### 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>	<p>200 kA</p> <p>100 kA</p> <p>65 kA</p>
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#### 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>	<p>600 A</p> <p>1 600 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>10 s</p> <p>20 s</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>2 400 A</p> <p>16 000 A</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>• maximum</li> </ul>	<p>0.4 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>12 000 A</p> <p>12 000 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>320 A</p> <p>1 200 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>• minimum</li> <li>• maximum</li> </ul>	<p>0.1 s</p> <p>0.3 s</p>
adjustable current response value current / of instantaneous short-circuit trip unit <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>12 000 A</p> <p>12 000 A</p>
design of the N-conductor protection	adjustable OFF; 50%; 75%; 100%; 125%; 150%
product function / grounding protection	Yes

#### Mechanical Design

product component <ul style="list-style-type: none"> <li>• undervoltage release</li> <li>• trip indicator</li> </ul>	<p>No</p> <p>No</p>
height [in]	8.14 in
height	206.9 mm
width [in]	8.99 in
width	228.4 mm
depth [in]	16 in
depth	406.4 mm

#### Connections

type of electrical connection / for main current circuit	without terminals
design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)	silver

design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)	silver
<b>Auxiliary circuit</b>	
number of CO contacts / for auxiliary contacts	0
<b>Environmental conditions</b>	
protection class IP / on the front	IP40
ambient temperature	
• during operation / minimum	-25 °C
• during operation / maximum	70 °C
• during storage / minimum	-40 °C
• during storage / maximum	80 °C
<b>Certificates</b>	
reference code / according to IEC 81346-2	F
certificate of suitability / as approval for NAVAL (no combat vessels) / supplement SB	No
<b>General Product Approval</b>	

[Confirmation](#)



[Miscellaneous](#)



other

[Confirmation](#)

[Miscellaneous](#)

#### Further information

**Siemens has decided to exit the Russian market (see here).**

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

**Siemens is working on the renewal of the current EAC certificates.**

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

**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=3VA6816-7HQ31-2AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6816-7HQ31-2AA0>

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

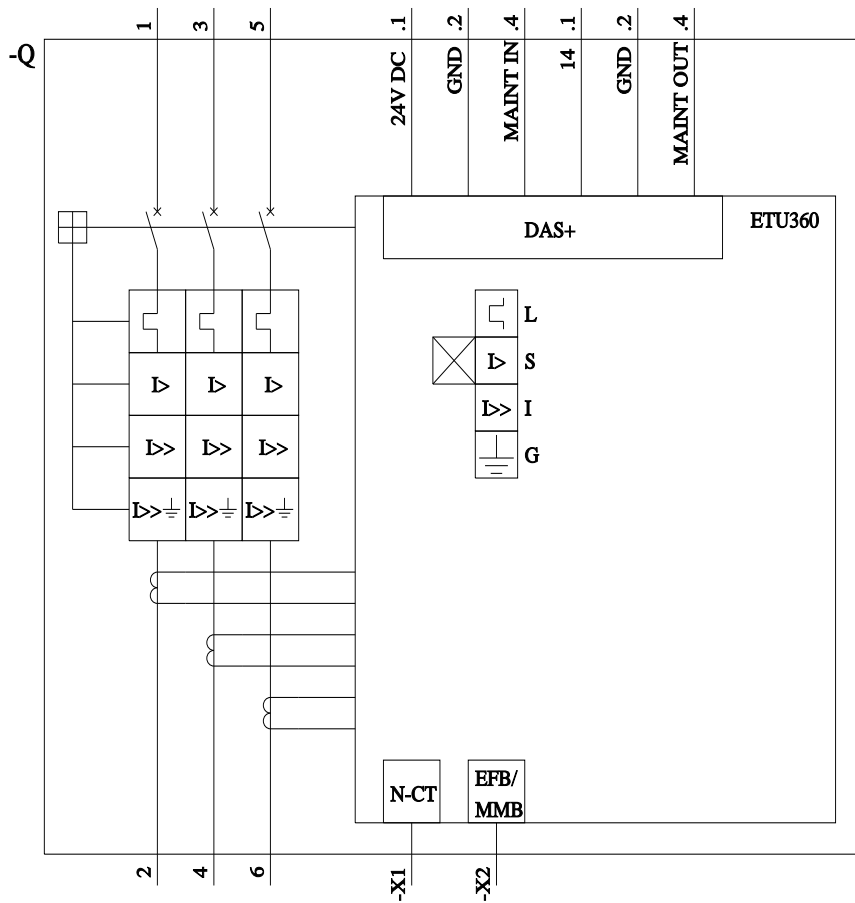
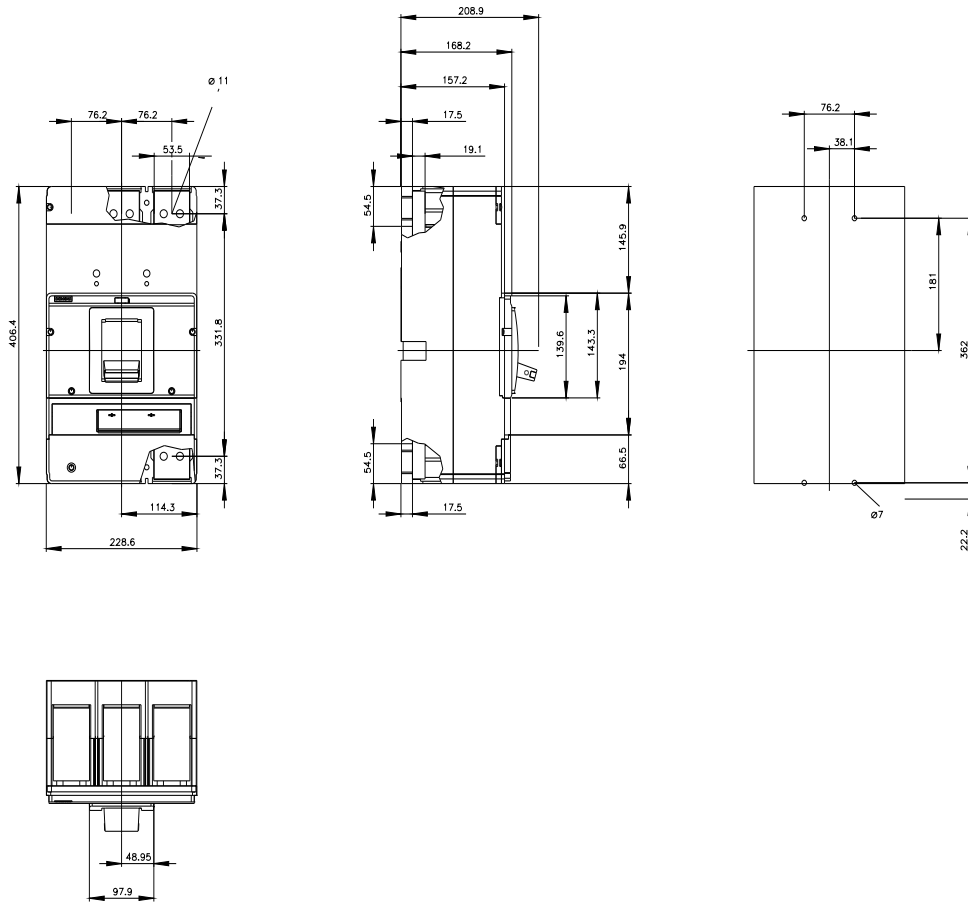
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6816-7HQ31-2AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6816-7HQ31-2AA0)

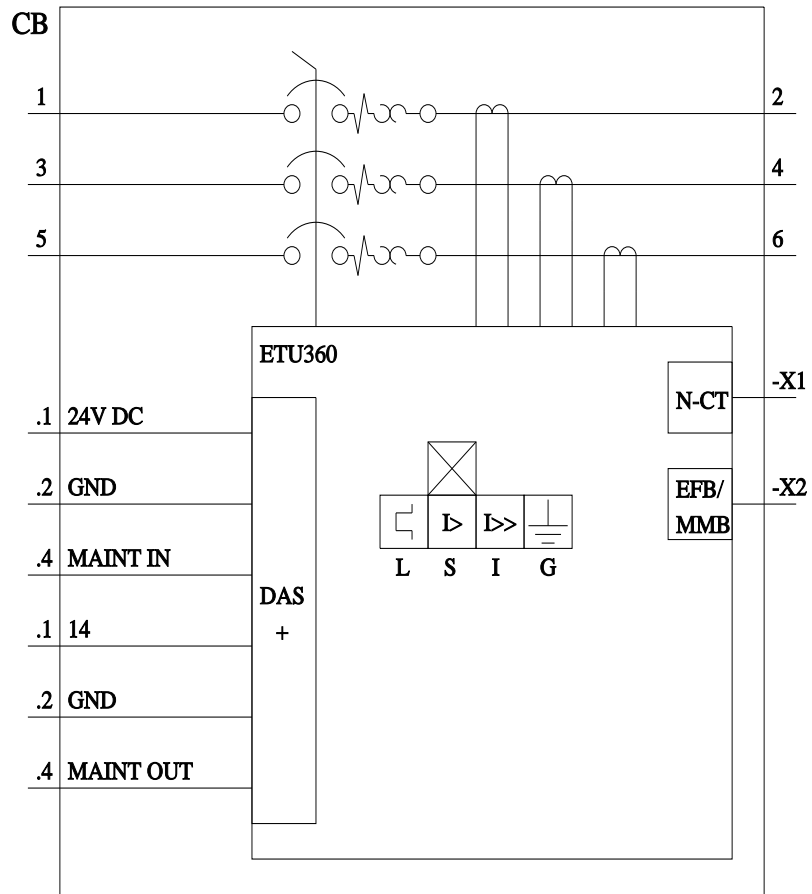
**CAX-Online-Generator**

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

**Tender specifications**

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





last modified:

4/19/2023

