



circuit breaker 3VA5 UL Frame 600 breaking capacity class C 100 kA @ 480 V 4-pole, line protection TM230, FTAM, In=500 A overload protection Ir = 500 A permanently set short-circuit protection Ii=5...10 x In neutral conductor protection 100% without connection

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	CLAS
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 load switch / according to UL 489 / High-Intensity-Discharge circuit breaker (HID Type)	No
design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type)	No
design of the overcurrent release	TM230
protection function of the overcurrent release	LI
number of poles	4
General technical data	
insulation voltage / rated value	800 V
operating voltage / at DC / rated value	600 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	122 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	40.77 W
mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	4 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	2 700
electrical endurance (operating cycles) / at 480 V	4 000
electrical endurance (operating cycles) / at 600 V	2 700
product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof	No
product function	
• communication function	No
• other measurement function	No
Net Weight	6.82 kg
Current	
marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	500 A
• at 45 °C	488 A
• at 50 °C	476 A
• at 55 °C	464 A
• at 60 °C	451 A
• at 65 °C	439 A
• at 70 °C	427 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>	200 kA 110 kA 10 kA
operating short-circuit current breaking capacity (I <sub>cs</sub> ) <ul style="list-style-type: none"><li>• at 240 V</li><li>• at 415 V</li><li>• at 690 V</li></ul>	200 kA 110 kA 6 kA
short-circuit current making capacity (I <sub>cm</sub> ) <ul style="list-style-type: none"><li>• at 240 V</li><li>• at 415 V</li><li>• at 690 V</li></ul>	440 kA 242 kA 17 kA
design of short-circuit protection	For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service & Support in the last chapter

**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>	200 kA 100 kA 35 kA
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**Adjustable parameters**

adjustable response value setting current (I <sub>r</sub> ) / of the L-trip / with I <sup>2</sup> t characteristic <ul style="list-style-type: none"><li>• minimum</li><li>• maximum</li></ul>	500 A 500 A
adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sup>2</sup> t characteristic <ul style="list-style-type: none"><li>• minimum</li><li>• maximum</li></ul>	1 s 1 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>	2 500 A 5 000 A
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 500 A
design of the N-conductor protection	100%
product function / grounding protection	No

**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]	9.76 in
height	248 mm
width [in]	7.24 in
width	184 mm
depth [in]	4.33 in
depth	110 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
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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 <ul style="list-style-type: none"><li>• during operation / minimum</li></ul>	-25 °C

- during operation / maximum
- during storage / minimum
- during storage / maximum

70 °C  
-40 °C  
80 °C

reference code / according to IEC 81346-2

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## Approvals / Certificates

### General Product Approval



### General Product Approval

### EMV

### Test Certificates

### Maritime application

[Miscellaneous](#)



[Type Test Certificates/Test Report](#)



### Maritime application

### other

### Environment



[Confirmation](#)

[Miscellaneous](#)

[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,...)

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

### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA5450-7GC41-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5450-7GC41-0AA0>

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

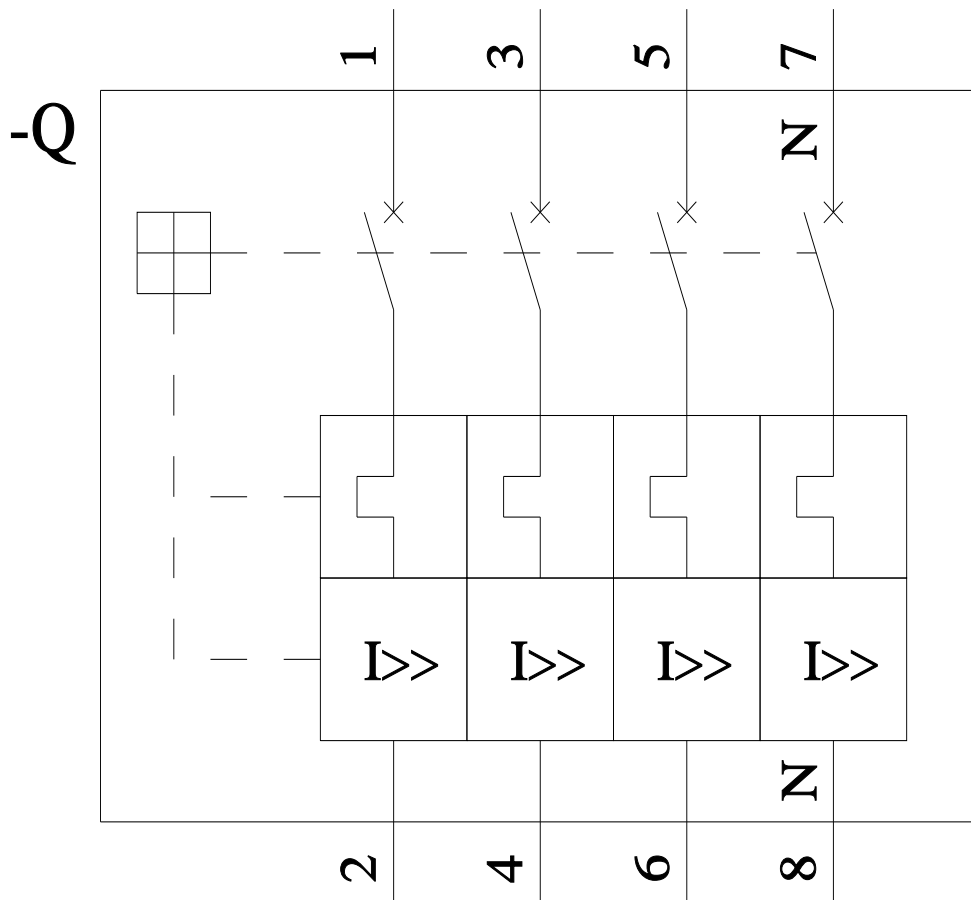
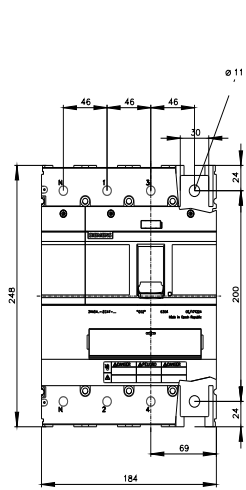
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA5450-7GC41-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5450-7GC41-0AA0)

### CAX-Online-Generator

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

### Tender specifications

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





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