



circuit breaker 3VA6 UL Frame 250 breaking capacity class M 35 kA @ 480 V 4-pole, line protection ETU830, LIG,  $I_n=100$  A overload protection, 100% rated  $I_r=40$  A...100 A short-circuit protection  $I_i=1.5...12 \times I_n$  ground-fault protection  $I_g=0.2...1 \times I_n$ ,  $t_g=0.05-0.8$ s without connection

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	MFAE
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	4
General technical data	
insulation voltage / rated value	800 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	6.7 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	2.23 W
mechanical service life (operating cycles) / typical	25 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	12 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	8 400
electrical endurance (operating cycles) / at 480 V	12 000
electrical endurance (operating cycles) / at 600 V	8 400
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	Yes
• other measurement function	Yes
Net Weight	2.9 kg
Current	
marking / according to UL 489 / 100%-rated breaker	Yes
operational current	
• at 40 °C	100 A
• at 45 °C	100 A
• at 50 °C	100 A
• at 55 °C	100 A
• at 60 °C	100 A
• at 65 °C	100 A

● at 70 °C	100 A
<b>Switching capacity according to IEC 60947</b>	
switching capacity class of the circuit breaker	M
maximum short-circuit current breaking capacity (I <sub>cu</sub> )	
● at 240 V	85 kA
● at 415 V	55 kA
● at 690 V	3 kA
operating short-circuit current breaking capacity (I <sub>cs</sub> )	
● at 240 V	85 kA
● at 415 V	55 kA
● at 690 V	3 kA
short-circuit current making capacity (I <sub>cm</sub> )	
● at 240 V	187 kA
● at 415 V	121 kA
● at 690 V	4.5 kA
<b>Switching capacity according to UL 489</b>	
current breaking capacity	
● at 240 V	100 kA
● at 480 V	35 kA
● at 600 V	18 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	40 A
● maximum	100 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	150 A
● maximum	1 200 A
adjustable current response value current / for G-tripping / with standard characteristic	
● initial value	20 A
● full-scale value	100 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	20 A
● maximum	100 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>nN</sub> ) / for N-tripping	
● minimum	20 A
● maximum	160 A
design of the N-conductor protection	adjustable OFF; 20% to 160%
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]	5.51 in
width	140 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



[Miscellaneous](#)

[Miscellaneous](#)



General Product Approval	EMV	Maritime application
--------------------------	-----	----------------------

[Confirmation](#)



Maritime application	other	Dangerous goods	Environment
----------------------	-------	-----------------	-------------



[Miscellaneous](#)

[Confirmation](#)

[Transport Information](#)

[Environmental Con-  
firmations](#)



### Environment



### 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,...)

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

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA6210-5KM41-2AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6210-5KM41-2AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA6210-5KM41-2AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6210-5KM41-2AA0)

CAX-Online-Generator

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

Tender specifications

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

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP="HAUPT"></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)

---

last modified:

5/2/2025 

