



circuit breaker 3VA5 UL Frame 250 breaking capacity class M 35 kA @ 480 V 3-pole, line protection TM210, FTFM,  $I_n=90$  A overload protection  $I_r=90$  A permanently set short-circuit protection  $I_i=10 \times I_n$  without connection

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	MFAS
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	TM210
protection function of the overcurrent release	LI
number of poles	3
General technical data	
insulation voltage / rated value	800 V
operating voltage / at DC / rated value	750 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	25 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	8.2 W
mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	8 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	4 000
electrical endurance (operating cycles) / at 480 V	8 000
electrical endurance (operating cycles) / at 600 V	4 000
product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof	No
product function	
• communication function	No
• other measurement function	No
Net Weight	2.031 kg
Current	
marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	90 A
• at 45 °C	90 A
• at 50 °C	90 A
• at 55 °C	87.3 A
• at 60 °C	85.5 A

<ul style="list-style-type: none"> <li>• at 65 °C</li> </ul>	82.8 A
<ul style="list-style-type: none"> <li>• at 70 °C</li> </ul>	79.2 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> )	
<ul style="list-style-type: none"> <li>• at 240 V</li> </ul>	85 kA
<ul style="list-style-type: none"> <li>• at 415 V</li> </ul>	55 kA
<ul style="list-style-type: none"> <li>• at 690 V</li> </ul>	7 kA
operating short-circuit current breaking capacity (I <sub>cs</sub> )	
<ul style="list-style-type: none"> <li>• at 240 V</li> </ul>	85 kA
<ul style="list-style-type: none"> <li>• at 415 V</li> </ul>	55 kA
<ul style="list-style-type: none"> <li>• at 690 V</li> </ul>	7 kA
short-circuit current making capacity (I <sub>cm</sub> )	
<ul style="list-style-type: none"> <li>• at 240 V</li> </ul>	187 kA
<ul style="list-style-type: none"> <li>• at 415 V</li> </ul>	121 kA
<ul style="list-style-type: none"> <li>• at 690 V</li> </ul>	11.9 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
<b>Switching capacity according to UL 489</b>	
current breaking capacity	
<ul style="list-style-type: none"> <li>• at 240 V</li> </ul>	85 kA
<ul style="list-style-type: none"> <li>• at 480 V</li> </ul>	35 kA
<ul style="list-style-type: none"> <li>• at 600 V</li> </ul>	18 kA
<b>Adjustable parameters</b>	
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> </ul>	90 A
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	90 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> </ul>	1 s
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	1 s
adjustable response value setting current (I <sub>i</sub> ) / for I-tripping	
<ul style="list-style-type: none"> <li>• minimum</li> </ul>	900 A
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	900 A
adjustable setting current (I <sub>nN</sub> ) / for N-tripping	
<ul style="list-style-type: none"> <li>• minimum</li> </ul>	0 A
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	0 A
product function / grounding protection	No
<b>Mechanical Design</b>	
product component	
<ul style="list-style-type: none"> <li>• undervoltage release</li> </ul>	No
<ul style="list-style-type: none"> <li>• voltage trigger</li> </ul>	No
<ul style="list-style-type: none"> <li>• trip indicator</li> </ul>	No
height [in]	7.28 in
height	185 mm
width [in]	4.13 in
width	105 mm
depth [in]	3.27 in
depth	83 mm
<b>Connections</b>	
arrangement of electrical connectors / for main current circuit	Without connection
type of electrical connection / for main current circuit	Without
<b>Auxiliary circuit</b>	
number of CO contacts / for auxiliary contacts	0
<b>Accessories</b>	
product extension / optional / motor drive	Yes
<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
reference code / according to IEC 81346-2	Q

#### Approvals / Certificates

##### General Product Approval



[Miscellaneous](#)

General Product Approval	EMV	Maritime application	other
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[Confirmation](#)

[Miscellaneous](#)

#### Environment

[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,...)

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

##### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mifb=3VA5290-5ED31-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5290-5ED31-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mifb=3VA5290-5ED31-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mifb=3VA5290-5ED31-0AA0)

##### CAX-Online-Generator

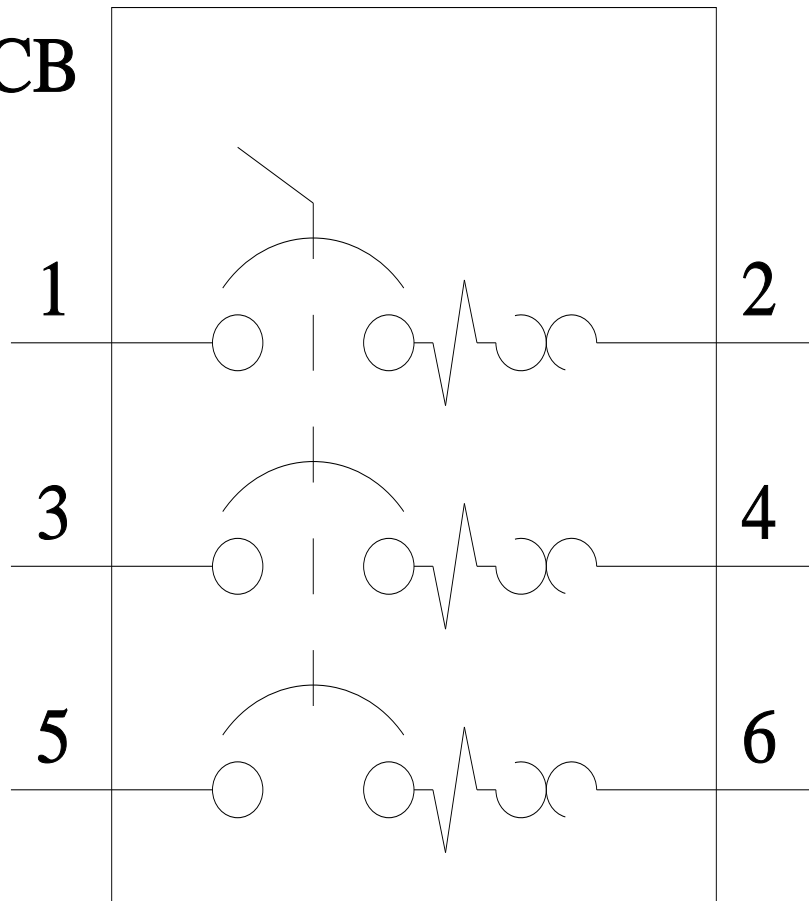
<https://www.siemens.com/cax>

##### Tender specifications

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



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last modified:

3/31/2025 

