



circuit breaker 3VA5 UL Frame 125 breaking capacity class S 25 kA @ 480 V 2-pole, line protection TM210, FTFM, In=80 A overload protection Ir=80 A permanently set short-circuit protection Ii=10 x In without connection

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	SEAS
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	2
General technical data	
insulation voltage / rated value	500 V
operating voltage / at DC / rated value	250 V
operating voltage / at AC / rated value	415 V
power loss [W] / maximum	12.86 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	6.43 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	1.2 kg
Current	
marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	80 A
• at 45 °C	78 A
• at 50 °C	77 A
• at 55 °C	76 A
• at 60 °C	74 A

<ul style="list-style-type: none"> • at 65 °C 	73 A
<ul style="list-style-type: none"> • at 70 °C 	72 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	S
maximum short-circuit current breaking capacity (I _{cu})	
<ul style="list-style-type: none"> • at 240 V 	55 kA
<ul style="list-style-type: none"> • at 415 V 	36 kA
operating short-circuit current breaking capacity (I _{cs})	
<ul style="list-style-type: none"> • at 240 V 	55 kA
<ul style="list-style-type: none"> • at 415 V 	36 kA
short-circuit current making capacity (I _{cm})	
<ul style="list-style-type: none"> • at 240 V 	121 kA
<ul style="list-style-type: none"> • at 415 V 	75.6 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"> • at 240 V 	65 kA
<ul style="list-style-type: none"> • at 480 V 	25 kA
<ul style="list-style-type: none"> • at 600 Y/347 V 	14 kA
Adjustable parameters	
adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic	
<ul style="list-style-type: none"> • minimum 	80 A
<ul style="list-style-type: none"> • maximum 	80 A
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic	
<ul style="list-style-type: none"> • minimum 	1 s
<ul style="list-style-type: none"> • maximum 	1 s
adjustable response value setting current (I _i) / for I-tripping	
<ul style="list-style-type: none"> • minimum 	800 A
<ul style="list-style-type: none"> • maximum 	800 A
adjustable setting current (I _{nN}) / for N-tripping	
<ul style="list-style-type: none"> • minimum 	0 A
<ul style="list-style-type: none"> • maximum 	0 A
product function / grounding protection	No
Mechanical Design	
product component	
<ul style="list-style-type: none"> • undervoltage release 	No
<ul style="list-style-type: none"> • voltage trigger 	No
<ul style="list-style-type: none"> • trip indicator 	No
height [in]	5.51 in
height	140 mm
width [in]	2 in
width	50.8 mm
depth [in]	3.01 in
depth	76.5 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	No
Environmental conditions	
protection class IP / on the front	IP40
ambient temperature	
<ul style="list-style-type: none"> • during operation / minimum 	-25 °C
<ul style="list-style-type: none"> • during operation / maximum 	70 °C

- during storage / minimum
- during storage / maximum

-40 °C

80 °C

reference code / according to IEC 81346-2

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Approvals / Certificates

General Product Approval



[Confirmation](#)



General Product Approval

EMV



[Miscellaneous](#)



Test Certificates

Maritime application

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



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,...)

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

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA5180-4ED21-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5180-4ED21-0AA0>

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

https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5180-4ED21-0AA0

CAX-Online-Generator

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

Tender specifications

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

Characteristic curves

[https://curves.simarix.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simarix.siemens.com/curves/<mmp_prod_noCOMP=)



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