



CIRCUIT BREAKER 3VA5 UL Frame 600 BREAKING CAPACITY CLASS M 35kA @ 480 V 3POLE, LINE PROTECTION TM230, FTAM, $I_n=500A$ WITHOUT OVERLOAD PROTECTION $I_R=500A$ FIXED SHORT CIRCUIT PROTECTION $I_i=5...10 \times I_n$ W/O CONNECTION

Model	
product brand name	SETRON
product designation	Molded-case circuit breaker
product designation / according to UL file	MLAS
Product version	System protection
design of the load switch / acc. to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type)	Yes
design of the overcurrent release	TM230
protection function of the overcurrent release	LI
number of poles	3
General technical data	
rated insulation voltage U_i	800 V
Max. rated operational voltage U_e with DC	500 V
power loss [W] / maximum	122 W
Active power loss / for rated value of the current / at AC / in hot operating state / per pole	40.77 W
mechanical service life (switching cycles) / typical	20 000
Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	4 000
Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz	2 700
electrical endurance (switching cycles) / at 480 V	4 000
electrical endurance (switching cycles) / at 600 V	2 700
Neutral conductors / upgradeable/retrofitable	No
product function	
• communication function	No
• other measurement function	No
Current	
marking / acc. to UL 489 / 100%-rated breaker	No
operational current	
• 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	M

breaking capacity maximum short-circuit current (Icu)	
• at 240 V	85 kA
• at 415 V	55 kA
• at 690 V	7 kA
breaking capacity operating short-circuit current (Ics)	
• at 240 V	85 kA
• at 415 V	55 kA
• at 690 V	6 kA
short-circuit current making capacity (Icm)	
• at 240 V	187 kA
• at 415 V	121 kA
• at 690 V	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
Switching capacity according to UL 489	
breaking capacity current	
• at 240 V	85 kA
• at 480 V	35 kA
• at 600 V	18 kA
Adjustable parameters	
Adjustable response value current / I _g min.	500 A
Adjustable response value current / I _g min.	500 A
Ground fault protection / tripping switchable / I ₂ t=ON/OFF	No
Mechanical Design	
height [in]	9.76 in
Height	248 mm
width [in]	5.43 in
Width	138 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	
product component	
• undervoltage release	No
• voltage trigger	No
• trip indicator	No
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
Certificates	
reference code / acc. to IEC 81346-2	Q
certificate of suitability / as approval for NAVAL (no combat vessels) / supplement SB	No
General Product Approval	



[Miscellaneous](#)

General Product Approval	EMC	Declaration of Conformity	other
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[UK Declaration of Conformity](#)

[Miscellaneous](#)

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Further information

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=3VA5450-5EC31-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5450-5EC31-0AA0>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5450-5EC31-0AA0

CAX-Online-Generator

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

Tender specifications

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

