



CIRCUIT BREAKER 3VA5 UL Frame 600 3POLE, MOTOR STARTER
PROTECTION TM120M, AM, $I_n=500A$ WITHOUT OVERLOAD PROTECTION
SHORT CIRCUIT PROTECTION $I_i=6...12 \times I_n$ W/O CONNECTION

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	HLAP
design of the product	Starter 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	TM120M
protection function of the overcurrent release	I
number of poles	3
General technical data	
insulation voltage / rated value	800 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	120 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	40 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
• phase failure detection	No
• other measurement function	No
Net Weight	5.2 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 • at 70 °C	439 A 427 A
Switching capacity according to IEC 60947	
maximum short-circuit current breaking capacity (I _{cu})	
• at 240 V • at 415 V • at 690 V	100 kA 70 kA 10 kA
operating short-circuit current breaking capacity (I _{cs})	
• at 240 V • at 415 V • at 690 V	100 kA 70 kA 6 kA
short-circuit current making capacity (I _{cm})	
• at 240 V • at 415 V • at 690 V	220 kA 154 kA 17 kA
Adjustable parameters	
adjustable response value setting current (I _i) / for I-tripping	
• minimum • maximum	4 000 A 6 000 A
adjustable setting current (I _{nN}) / for N-tripping	
• minimum • maximum	0 A 0 A
product function / grounding protection	No
Mechanical Design	
product component	
• undervoltage release • voltage trigger • trip indicator	No No No
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	
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 • during operation / maximum • during storage / minimum • during storage / maximum	-25 °C 70 °C -40 °C 80 °C
reference code / according to IEC 81346-2	Q
Approvals / Certificates	
General Product Approval	



[Confirmation](#)



EG-Konf.



UL



UL

General Product Approval

EMV

Test Certificates



[Miscellaneous](#)



[Type Test Certificates/Test Report](#)

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=3VA5450-0MH31-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5450-0MH31-0AA0>

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

https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5450-0MH31-0AA0

CAX-Online-Generator

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

Tender specifications

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





