



circuit breaker 3VA5 UL frame 125 3-pole, starter protection TM120M, AM, In=80A without overload protection short-circuit protection Ii=5...12 x In without connection

Model

product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	HEAP
Product version	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	14.2 W
Active power loss / for rated value of the current / at AC / in hot operating state / per pole	4.73 W
mechanical service life (switching cycles) / typical	20 000
Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	8 000
Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz	4 000
electrical endurance (switching cycles) / at 480 V	8 000
electrical endurance (switching cycles) / at 600 V	4 000
Neutral conductors / upgradeable/retrofitable	No
ground-fault monitoring version	without
product function	
• communication function	No
• phase failure detection	No
• other measurement function	No
Net Weight	951 g

Current

marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	80 A
• at 45 °C	80 A
• at 50 °C	80 A
• at 55 °C	80 A
• at 60 °C	80 A

• at 65 °C • at 70 °C	80 A 80 A
Switching capacity according to IEC 60947	
breaking capacity maximum short-circuit current (Icu)	
• at 240 V • at 415 V • at 690 V	150 kA 70 kA 10 kA
breaking capacity operating short-circuit current (Ics)	
• at 240 V • at 415 V • at 690 V	150 kA 70 kA 5 kA
short-circuit current making capacity (Icm)	
• at 240 V • at 415 V • at 690 V	330 kA 154 kA 17 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
Adjustable parameters	
product feature / for L-tripping / selectable characteristic function	No
product feature / for S-tripping / independent of direction / selectable characteristic function	No
product feature / for I-tripping / can be switched on/off	No
design of I-trip / adjustable	Yes
reference value setting current (Ii) / for I-tripping	x In
set values setting current (Ii) / for I-tripping	5;6;7;8;9;10;11;12
adjustable response factor setting current (Ii) / for I-tripping / minimum	5
adjustable response factor setting current (Ii) / for I-tripping / maximum	12
adjustable response value setting current (Ii) / for I-tripping / minimum	400 A
adjustable response value setting current (Ii) / for I-tripping / maximum	960 A
product feature / for G-tripping / selectable characteristic function	No
product feature / with neutral conductor protection / can be switched on/off	No
product feature / with neutral conductor protection / adjustable	No
type of value list setting current (InN) / for N-tripping	Fest
reference value setting current (InN) / for N-tripping	s
setting values setting current (InN) / for N-tripping	0
adjustable absolute value setting current (InN) / for N-tripping / minimum	0 A
adjustable absolute value setting current (InN) / for N-tripping / maximum	0 A
tripping characteristic / of the upper tolerance band	AK_3VA5_1_80A_TM120M1_H_oT
let-through energy characteristic / at 240 V	DE_3VA5_1_80A_TM_line u starter_3u4p_240V
let-through energy characteristic / at 415 V	DE_3VA5_1_80A_TM_line u starter_3u4p_415V
let-through energy characteristic / at 690 V	DE_3VA5_1_80A_TM_line u starter_3u4p_690V
type of value list setting current (Ii) / for I-tripping	St
tripping characteristic / of the let-through current characteristic / at 240 V	DS_3VA5_1_80A_TM_line u starter_3u4p_240V
tripping characteristic / of the let-through current characteristic / at 415 V	DS_3VA5_1_80A_TM_line u starter_3u4p_415V
tripping characteristic / of the let-through current characteristic / at 690 V	DS_3VA5_1_80A_TM_line u starter_3u4p_690V
Ground fault protection / tripping switchable / I2t=ON/OFF	No
Mechanical Design	
product component	
• undervoltage release • voltage trigger • trip indicator	No No No
height [in]	5.51 in

Height	140 mm
width [in]	3 in
Width	76.2 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
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Accessories

product extension / optional / motor drive	Yes
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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 / according to IEC 81346-2	Q
certificate of suitability / as approval for NAVAL (no combat vessels) / supplement SB	Yes

General Product Approval



[Confirmation](#)



General Product Approval

EMC

Declaration of Conformity

Test Certificates

[Miscellaneous](#)



EG-Konf.



[Miscellaneous](#)

Test Certificates

Marine / Shipping

other

[Special Test Certificate](#)



[Miscellaneous](#)

[Miscellaneous](#)

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=3VA5180-1MH31-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5180-1MH31-0AA0>

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

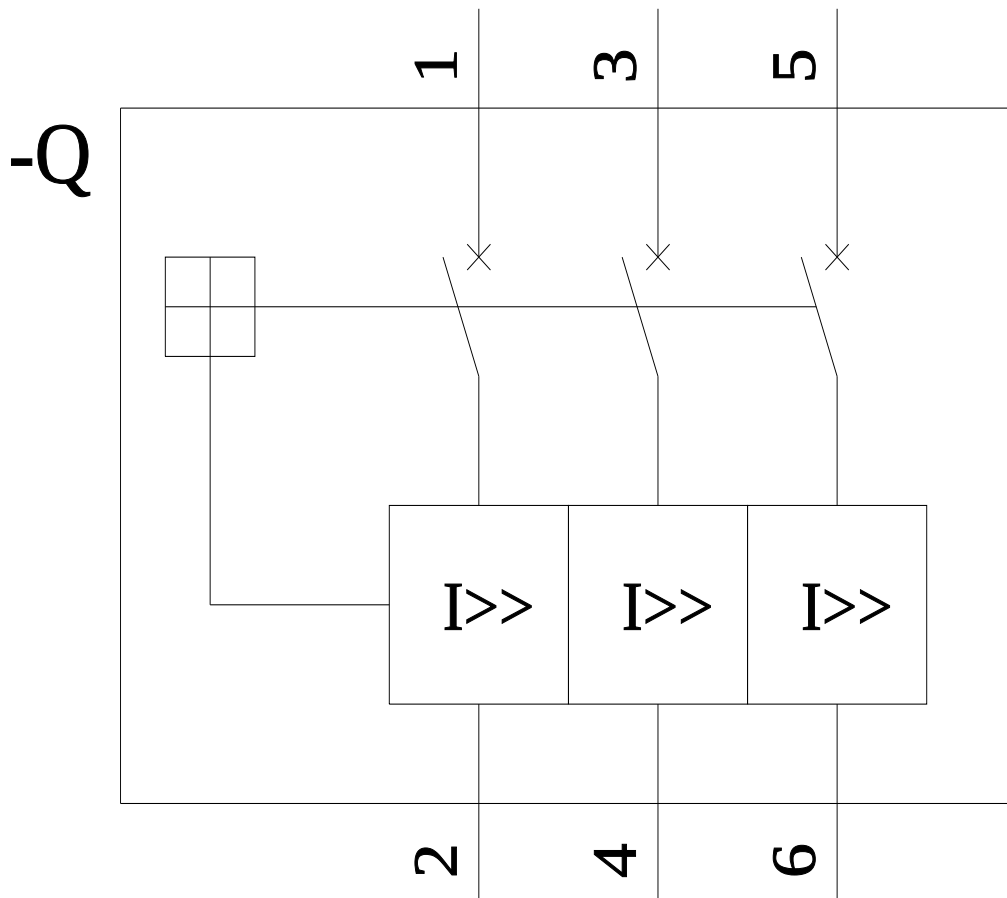
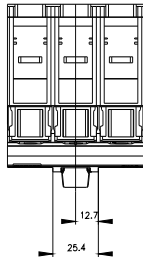
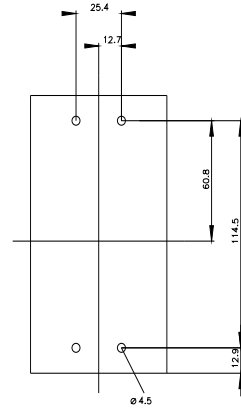
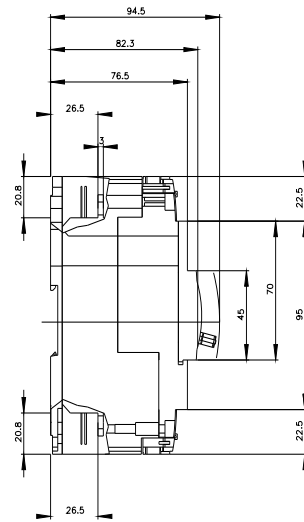
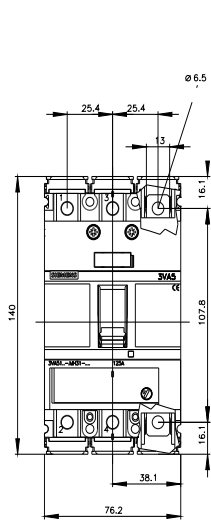
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5180-1MH31-0AA0

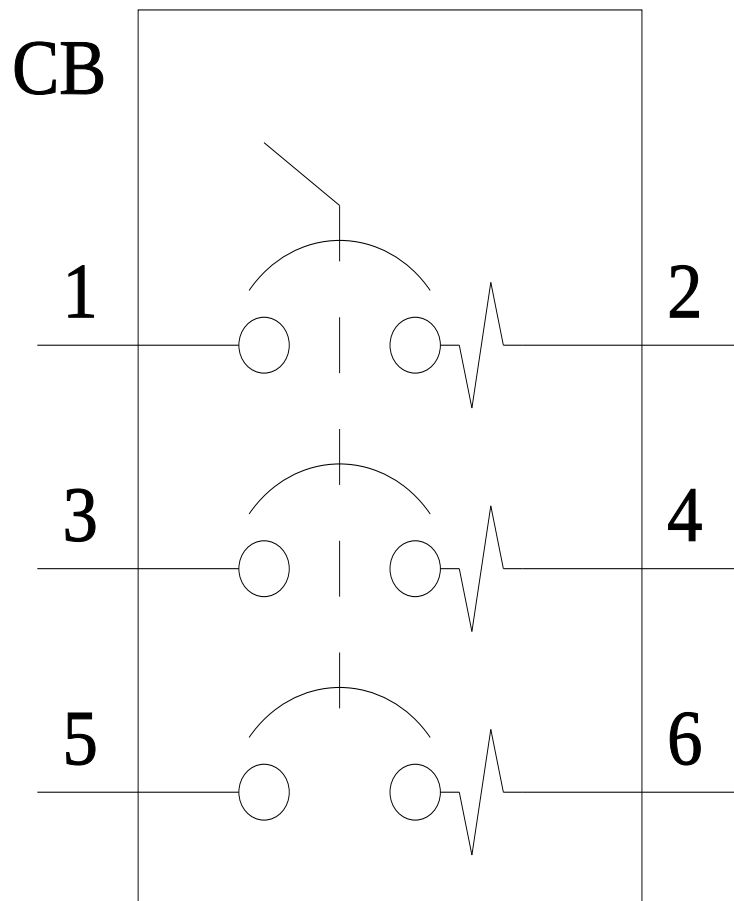
CAX-Online-Generator

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

Tender specifications

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





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