



circuit breaker 3VA5 UL Frame 250 breaking capacity class H 65 kA @ 480 V 3-pole, line protection TM210, FTFM, $I_n=25$ A overload protection $I_r=25$ A permanently set short-circuit protection $I_i=14 \times I_n$ UL 489 SB (naval), 50 °C, nut keeper kit on two sides

Model	
product brand name	SETRON
product designation	Molded-case circuit breaker
product designation / according to UL file	HFAM
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)	Yes
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	
operating voltage / at DC / rated value	750 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	14.2 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	4.7 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	2 100 g
Current	
marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	25 A
• at 45 °C	24.3 A
• at 50 °C	23.6 A
• at 55 °C	23 A
• at 60 °C	22.3 A
• at 65 °C	21.6 A

• at 70 °C	20.9 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	H
maximum short-circuit current breaking capacity (I _{cu})	
• at 240 V	100 kA
• at 415 V	70 kA
• at 690 V	10 kA
operating short-circuit current breaking capacity (I _{cs})	
• at 240 V	100 kA
• at 415 V	70 kA
• at 690 V	10 kA
short-circuit current making capacity (I _{cm})	
• at 240 V	220 kA
• at 415 V	154 kA
• at 690 V	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
Switching capacity according to UL 489	
current breaking capacity	
• at 240 V	100 kA
• at 480 V	65 kA
• at 600 V	25 kA
Adjustable parameters	
adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic	
• minimum	25 A
• maximum	25 A
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic	
• minimum	1 s
• maximum	1 s
adjustable response value setting current (I _i) / for I-tripping	
• minimum	400 A
• maximum	400 A
product function / grounding protection	No
Mechanical Design	
product component	
• undervoltage release	No
• voltage trigger	No
• trip indicator	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
Connections	
arrangement of electrical connectors / for main current circuit	Front connection
type of electrical connection / for main current circuit	nut keeper kit on both ends
type of connectable conductor cross-sections / for flat-bar terminal connection / minimum	13 x 1 mm
type of connectable conductor cross-sections / for flat-bar terminal connection / maximum	25 x 8 mm
design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)	silver
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	-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



[Confirmation](#)



[Miscellaneous](#)

General Product Approval	EMV	Maritime application	other	Environment
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[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=3VA5285-6ED32-1AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA5285-6ED32-1AA0>

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

https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5285-6ED32-1AA0

CAX-Online-Generator

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

Tender specifications

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

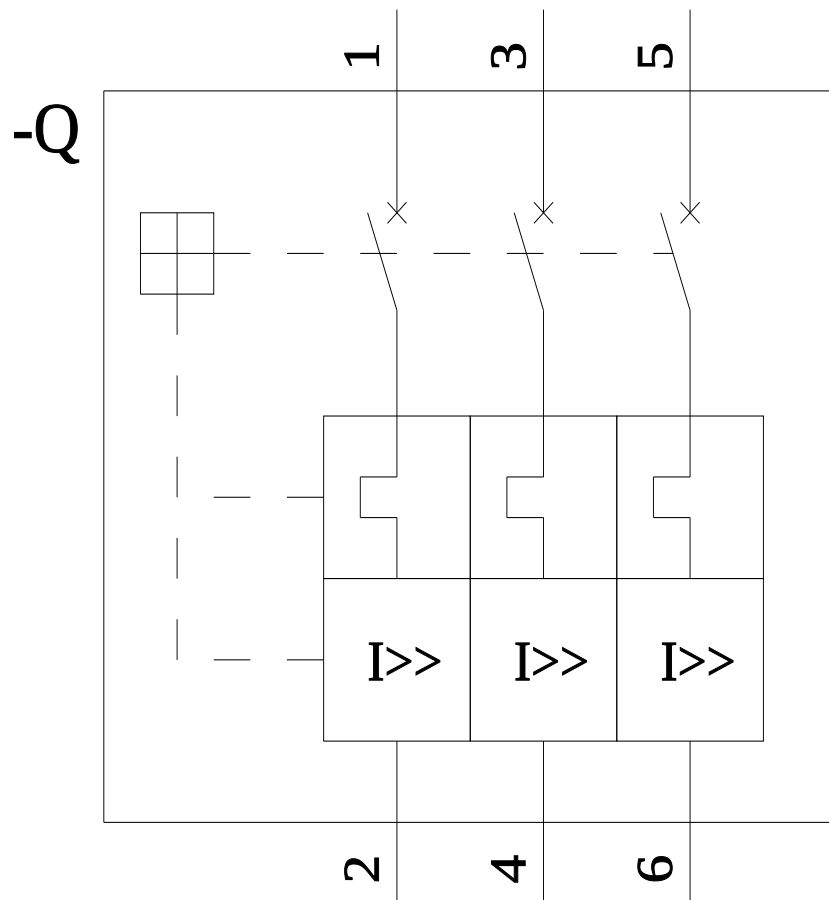
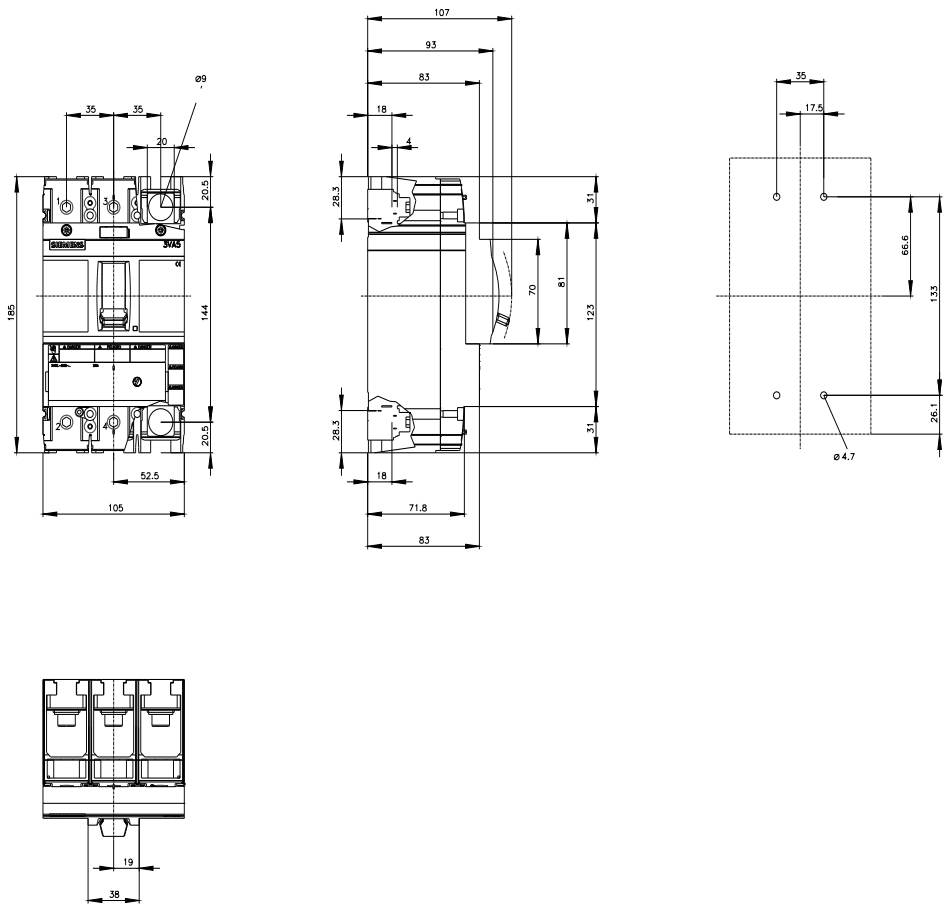


Diagram of a 3-qubit quantum circuit with 6 lines. The circuit consists of three identical stages. Each stage has a CNOT gate with control on line 1 and target on line 3, followed by a CNOT gate with control on line 1 and target on line 5, and finally a CNOT gate with control on line 1 and target on line 3. The lines are labeled 1, 2, 3, 4, 5, 6 on the left and right sides. The top line is labeled 'CB'.

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