



circuit breaker 3VA1 IEC Frame 160 breaking capacity class N $I_{cu}=25 \text{ kA} @ 240 \text{ V}$
1-pole, line protection TM210, FTFM, $I_n=80 \text{ A}$ overload protection $I_r=80 \text{ A}$
permanently set short-circuit protection $I_i=10 \times I_n$ terminal connection

Model	
product brand name	SENTRON
product designation	Molded case circuit breaker
design of the product	Line protection
design of the overcurrent release	TM210
protection function of the overcurrent release	LI
number of poles	1
General technical data	
insulation voltage / rated value	500 V
operating voltage / at DC / rated value	125 V
operating voltage / at AC / rated value	415 V
power loss [W] / maximum	6.4 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	6.4 W
mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	9 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	6 300
product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof	No
ground-fault monitoring version	Without
product function	
• communication function	No
• other measurement function	No
Net Weight	398 g
Current	
operational current	
• at 40 °C	80 A
• at 45 °C	80 A
• at 50 °C	80 A
• at 55 °C	78 A
• at 60 °C	77 A
• at 65 °C	75 A
• at 70 °C	74 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	N
maximum short-circuit current breaking capacity (I_{cu})	
• at 240 V	25 kA
• at 415 V	5 kA
operating short-circuit current breaking capacity (I_{cs})	

• at 240 V • at 415 V	25 kA
short-circuit current making capacity (I _{cm})	5 kA
• at 240 V • at 415 V	52.5 kA
design of short-circuit protection	7.5 kA
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 / can be switched on/off	No
adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic	
• minimum • maximum	80 A
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic	80 A
• minimum • maximum	1 s
adjustable response value setting current (I _i) / for I-tripping	1 s
• minimum • maximum	800 A
adjustable setting current (I _{nN}) / for N-tripping	800 A
• minimum • maximum	0 A
product function / grounding protection	0 A

Mechanical Design

product component	
• undervoltage release • voltage trigger • trip indicator	No
height [in]	No
height	No
width [in]	No
type of connectable conductor cross-sections / of the round conductor terminal / stranded	5.12 in
width	130 mm
depth [in]	1 in
depth	1 x (1,5 - 70 mm ²)

Connections

arrangement of electrical connectors / for main current circuit	25.4 mm
type of electrical connection / for main current circuit	2.76 in
design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)	70 mm
design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)	

Auxiliary circuit

number of CO contacts / for auxiliary contacts	0
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Accessories

product extension / optional / motor drive	No
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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

Environmental footprint

Environmental Product Declaration (EPD)	Yes
global warming potential [CO ₂ eq] / total	63.6 kg
global warming potential [CO ₂ eq] / during manufacturing	1.81 kg
global warming potential [CO ₂ eq] / during operation	62 kg

global warming potential [CO2 eq] / after end of life		-0.282 kg			
reference code / according to IEC 81346-2		Q			
Approvals / Certificates					
General Product Approval					
 CCC		 EG-Konf.	Confirmation	 VDE	Miscellaneous
General Product Approval		EMV	Test Certificates		
		 RCM	Type Test Certificates/Test Report	Special Test Certificate	Miscellaneous
Maritime application			other		
 BUREAU VERITAS	 DNV	CCS (China Classification Society)	 产品合格 QC PASS	Confirmation	Miscellaneous
Environment					
 EPD	 EPD	Environmental Confirmations	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=3VA1180-3ED16-0AA0 Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3VA1180-3ED16-0AA0 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1180-3ED16-0AA0 CAx-Online-Generator https://www.siemens.com/cax Tender specifications https://www.siemens.com/specifications Characteristic curves <a href='https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>'>https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>					



