



circuit breaker 3VA1 IEC frame 630 breaking capacity class M $I_{cu}=55\text{kA}$ @ 415V 4-pole, line protection TM240, ATAM, $I_n=500\text{A}$ overload protection $I_r=350\text{A}\dots500\text{A}$ short-circuit protection $I_i=5\dots10 \times I_n$ N conductor protection 100% nut keeper kit

Model

product brand name	SENTRON
product designation	Molded case circuit breaker
design of the product	Line protection
design of the overcurrent release	TM240
protection function of the overcurrent release	LI
number of poles	4

General technical data

insulation voltage / rated value	800 V
operating voltage / at DC / rated value	600 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	122.7 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	40.9 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	3 000
product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof	No
ground-fault monitoring version	Without
product function	
• communication function	No
• other measurement function	No
Net Weight	6.46 kg

Current

continuous current / rated value / maximum	630 A
continuous current / rated value	500 A
operational current	
• at 40 °C	500 A
• at 45 °C	500 A
• at 50 °C	500 A
• at 55 °C	488 A
• at 60 °C	476 A
• at 65 °C	464 A
• at 70 °C	452 A

Switching capacity according to IEC 60947

switching capacity class of the circuit breaker	M
maximum short-circuit current breaking capacity (I_{cu})	
• at 240 V	85 kA
• at 415 V	55 kA
• at 440 V	55 kA

• at 500 V • at 690 V	36 kA
operating short-circuit current breaking capacity (Ics)	7 kA
• at 240 V • at 415 V • at 440 V • at 500 V • at 690 V	85 kA
	55 kA
	55 kA
	36 kA
	5 kA
short-circuit current making capacity (Icm)	
• at 240 V • at 415 V • at 440 V • at 500 V • at 690 V	187 kA
	121 kA
	121 kA
	75.6 kA
	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

Adjustable parameters

product feature / for L-tripping / can be switched on/off	No
adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic	
• minimum • maximum	350 A
	500 A
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic	
• minimum • maximum	1 s
	1 s
adjustable response value setting current (Ii) / for I-tripping	
• minimum • maximum	2 500 A
	5 000 A
adjustable absolute value setting current (InN) / for N-tripping	
• minimum • maximum	500 A
	500 A
adjustable current response value current / of instantaneous short-circuit trip unit	
• minimum • maximum	2 500 A
	5 000 A
design of the N-conductor protection	100%
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]	7.24 in
width	184 mm
depth [in]	4.33 in
depth	110 mm

Connections

arrangement of electrical connectors / for main current circuit	Front terminal
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	20 x 1 mm
type of connectable conductor cross-sections / for flat-bar terminal connection / maximum	35 x 10 mm
design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)	Silver
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
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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 / according to IEC 81346-2	Q	
General Product Approval		EMC



[Confirmation](#)



[Miscellaneous](#)



Declaration of Conformity	Test Certificates			Marine / Shipping
 EG-Konf.		Miscellaneous	Special Test Certificate	Type Test Certificates/Test Report
				

Marine / Shipping	other			Environment
		Confirmation	Miscellaneous	Environmental Confirmations
			Miscellaneous	

Further information	
Information on the packaging	https://support.industry.siemens.com/cs/ww/en/view/109813875
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=3VA1450-5GF42-0AA0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)	https://support.industry.siemens.com/cs/ww/en/ps/3VA1450-5GF42-0AA0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)	http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1450-5GF42-0AA0
CAX-Online-Generator	http://www.siemens.com/cax
Tender specifications	http://www.siemens.com/specifications



