



circuit breaker 3VA1 IEC Frame 250 breaking capacity class M Icu=55 kA @ 415 V
4-pole, line protection TM240, ATAM, In=200 A overload protection Ir=140 A...200
A short-circuit protection Ii=5...10 x In neutral conductor protection 50% 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	42 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	14 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	5 400
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	2.073 kg
Current	
operational current	
• at 40 °C	200 A
• at 45 °C	200 A
• at 50 °C	200 A
• at 55 °C	194 A
• at 60 °C	188 A
• at 65 °C	182 A
• at 70 °C	176 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	M
maximum short-circuit current breaking capacity (Icu)	
• at 240 V	85 kA
• at 415 V	55 kA
• at 440 V	36 kA

<ul style="list-style-type: none"> • at 500 V • at 690 V 	<p>15 kA</p> <p>10 kA</p>
operating short-circuit current breaking capacity (Ics)	
<ul style="list-style-type: none"> • at 240 V • at 415 V • at 440 V • at 500 V • at 690 V 	<p>85 kA</p> <p>55 kA</p> <p>36 kA</p> <p>10 kA</p> <p>5 kA</p>
short-circuit current making capacity (Icm)	
<ul style="list-style-type: none"> • at 240 V • at 415 V • at 440 V • at 500 V • at 690 V 	<p>187 kA</p> <p>121 kA</p> <p>75.5 kA</p> <p>30 kA</p> <p>17 kA</p>
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 (I _r) / of the L-trip / with I ² t characteristic	
<ul style="list-style-type: none"> • minimum • maximum 	<p>140 A</p> <p>200 A</p>
adjustable response value delay time (tr) / for L-tripping / with I ² t characteristic	
<ul style="list-style-type: none"> • minimum • maximum 	<p>1 s</p> <p>1 s</p>
adjustable response value setting current (I _i) / for I-tripping	
<ul style="list-style-type: none"> • minimum • maximum 	<p>1 000 A</p> <p>2 000 A</p>
adjustable setting current (I _{nN}) / for N-tripping	
<ul style="list-style-type: none"> • minimum • maximum 	<p>100 A</p> <p>100 A</p>
design of the N-conductor protection	50%
product function / grounding protection	No

Mechanical Design

product component	
<ul style="list-style-type: none"> • undervoltage release • voltage trigger • trip indicator 	<p>No</p> <p>No</p> <p>No</p>
height [in]	6.22 in
height	158 mm
width [in]	5.51 in
width	140 mm
depth [in]	2.76 in
depth	70 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	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 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
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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

Environmental footprint	
global warming potential [CO2 eq] / total	285.47 kg
global warming potential [CO2 eq] / during manufacturing	6.87 kg
global warming potential [CO2 eq] / during operation	279 kg
global warming potential [CO2 eq] / after end of life	-0.78 kg
reference code / according to IEC 81346-2	Q




Approvals / Certificates

General Product Approval




[Miscellaneous](#)



General Product Approval	EMV	Test Certificates
Confirmation  EG-Konf.	  RCM	Special Test Certificate Miscellaneous

Test Certificates	Maritime application
Type Test Certificates/Test Report	 ABS
	 BUREAU VERITAS
	 DNV
	 LRS
	 RMRS

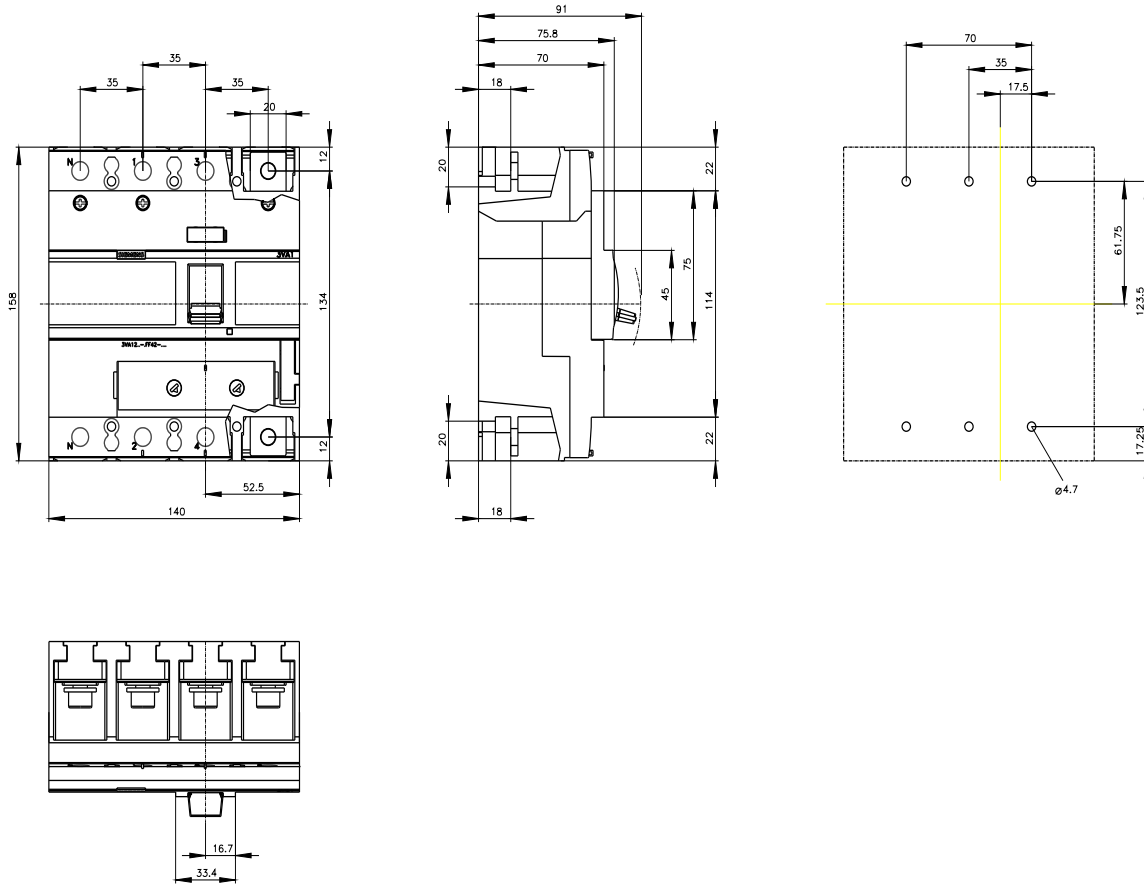
Maritime application	other	Environment
CCS (China Classification Society)	Miscellaneous	 产品合格 QC PASS
	Confirmation	Environmental Confirmations
		Environmental Confirmations

Environment



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=3VA1220-5FF42-0AA0>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3VA1220-5FF42-0AA0>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1220-5FF42-0AA0





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