SIEMENS

Data sheet

3VA5220-5ED31-1AA0



circuit breaker 3VA5 UL frame 250 breaking capacity class M 35kA @ 480 V 3-pole, line protection TM210, FTFM, In=200A overload protection Ir=200A fixed short-circuit protection Ii=10 x In UL 489 SB (naval), 50° C without connection

product brand name SENTRON product designation / according to UL file MFAM design of the product System protection design of the product / according to UL 489 / Heating, Ar Yes Conditioning, and Refrigeration circuit breaker (MACR Type) No Discharge circuit breaker (MACR Type) No design of the load switch / according to UL 489 / High-Intensity- No Discharge circuit breaker (MICR Type) No design of the load switch / according to UL 489 / Switching Duty circuit breaker (MICR Type) No design of the load switch / according to UL 489 / Switching Duty circuit breaker (MICR Type) No design of the overcurrent release TM210 protection function of the overcurrent release Ll number of poles 3 General technical data 680 V power loss [W] / for rated value of the current / at AC / in hot 14.17 W power loss [W] / for rated value of the current / at AC / in hot 14.17 W electrical endurance (operating cycles) / typical 20 000 electrical endurance (operating cycles) / at AC-1 / at 3804V 5 8000 electrical endurance (operating cycles) / at AC 0 / at 800 V	Model	
product designation / according to UL file MFAM design of the product System protection design of the load switch / according to UL 489 / Heating, AI Conditioning, and Refrigeration circuit breaker (HACR Type) design of the load switch / according to UL 489 / High-Intensity: Discharge circuit breaker (INT Type) design of the load switch / according to UL 489 / Switching Duty circuit breaker (INT Type) design of the overcurrent release TM210 protection function of the overcurrent release unumber of poles General technical data operating voltage / at AC / rated value operating voltage / at AC / rated value power loss [W] / for rated value of the current / at AC / in hot operating state / per pole mechanical service life (operating cycles) / typical electrical endurance (operating cycles) / typical electrical endurance (operating cycles) / typical ground-fault monitoring version yrout feature / for neutral conductors / upgradable/retrofittable / short - forcuring version ground-fault monitoring version without product feature / for neutral conductors / upgradable/retrofittable / short - forcuring version ground-fault monitoring version without product feature (operating cycles) / at 600 V 4 000 Autor feature / for neutral conductors / upgradable/retrofittable No No No No No No No No No No	product brand name	SENTRON
design of the product System protection design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigerative (HACR Type) Yes design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (HACR Type) No design of the load switch / according to UL 489 / Switching Duty circuit breaker (GWD Type) No design of the load switch / according to UL 489 / Switching Duty circuit breaker (GWD Type) No design of the overcurrent release TM210 protection function of the overcurrent release Ll operating voltage / at AC / rated value 690 V power loss (W) / for rated value of the current / at AC / in hot operating state / per pole 20 000 electrical endurance (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 380/415 V 8 000 electrical endurance (operating cycles) / at AC-1 / at 380/415 V 8 000 electrical endurance (operating cycles) / at AC-1 / at 380/415 V 8 000 electrical endurance (operating cycles) / at AC-1 / at 380/415 V 8 000 electrical endurance (operating cycles) / at AC-1 / at 380/415 V 8 000 ground-fa	product designation	Molded-case circuit breaker
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 / Heating, Air Discharge circuit breaker (HID Type) No 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 dricuit breaker (SWD Type) No design of the load switch / according to UL 489 / Switching Duty dricuit breaker (SWD Type) No design of the load switch / according to UL 489 / Switching Duty dricuit breaker (SWD Type) No operating voltage / at AC / rated value 690 V operating voltage / at AC / rated value of the current / at AC / in hot operating state / per pole 14.17 W operating state / per pole 14.17 W electrical endurance (operating cycles) / typical 20 000 electrical endurance (operating cycles) / typical 8000 electrical endurance (operating cycles) / at 480 V 8000 electrical endurance (operating cycles) / at 480 V 8000 ground-fault monitoring version without product function No other measurement function <	product designation / according to UL file	MFAM
Conditioning, and Refrigeration circuit breaker (HACR Type) No 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 TM210 protection function of the overcurrent release LI operating voltage / at AC / rated value 690 V operating voltage / at AC / rated value 690 V power loss [W] / maximum 43 W operating voltage / at AC / rated value of the current / at AC / in hot operating state / per pole 14.17 W electrical endurance (operating cycles) / typical 20 000 electrical endurance (operating cycles) / typical 8 000 electrical endurance (operating cycles) / ta 480 V 8 000 electrical endurance (operating cycles) / ta 480 V 8 000 electrical endurance (operating cycles) / ta 480 V 8 000 electrical endurance (operating cycles) / ta 480 V 8 000 ground-fault monitoring version without product feature / for neutral conductors / upgradable/retrofittable No other measurement function No other measurement function No	design of the product	System protection
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 TM210 protection function of the overcurrent release Ll number of poles 3 General tochnical data 690 V operating voltage / at AC / rated value 690 V power loss [W] / for rated value of the current / at AC / in hot operating state / per pole 14.17 W mechanical service life (operating cycles) / ta AC-1 / at 380/415 V 8 000 electrical endurance (operating cycles) / at AC-1 / at 380/415 V 8 000 electrical endurance (operating cycles) / at AC0 V 4 000 electrical endurance (operating cycles) / at AC0 V 8 000 electrical endurance (operating cycles) / at A00 V 4 000 product feature / for neutral conductors / upgradable/retrofittable No / short-circuit and overload proof without product function No • other measument function No • other measument function No • other measument function No • at 40 °C 200 A • at 45 °C 194 A		Yes
circuit breaker (SWD Type) TM210 design of the overcurrent release Ll number of poles 3 coperating voltage / at AC / rated value 690 V power loss [W] / maximum 43 W perating state / per pole mechanical service life (operating cycles) / typical 20 000 electrical endurance (operating cycles) / typical 20 000 electrical endurance (operating cycles) / typical electrical endurance (operating cycles) / typical 20 000 electrical endurance (operating cycles) / ta AC-1 / at 380/415 V 8 000 electrical endurance (operating cycles) / typical 20 000 electrical endurance (operating cycles) / ta AC V 8 000 electrical endurance (operating cycles) / ta 480 V 8 000 electrical endurance (operating cycles) / ta 480 V 8 000 ground-fault monitoring cycles) / at 600 V 4 000 Product feature / for neutral conductors / upgradable/retrofittable No / short-circuit and overtoad proof gground-fault monitoring version without product function No No No other measu	· · · · · · · · · · · · · · · · · · ·	No
protection function of the overcurrent release Ll number of poles 3 General technical data 690 V operating voltage / at AC / rated value 690 V power loss [W] / maximum 43 W power loss [W] / for rated value of the current / at AC / in hot 14.17 W operating solate / per pole 20 000 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 380/415 V 8 000 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 product feature / for neutral conductors / upgradable/retrofittable No / short-circuit and overload proof ground-fault monitoring version without product function • other measurement function No • other measurement function No • other measurement function No • otta 0°C 200 A • at 40 °C 200 A • at 45 °C 194 A • at 55 °C 189 A		No
number of poles 3 General tochnical data 690 V power loss [W] / maximum 43 W power loss [W] / for rated value of the current / at AC / in hot operating state / per pole 14.17 W mechanical service life (operating cycles) / the current / at AC / in hot operating state / per pole 20 000 electrical endurance (operating cycles) / at AC-1 / at 380/415 V 8 000 electrical endurance (operating cycles) / at AC-1 / at 680 V 4 000 electrical endurance (operating cycles) / at AC-1 / at 680 V 4 000 electrical endurance (operating cycles) / at 480 V 8 000 electrical endurance (operating cycles) / at 480 V 8 000 electrical endurance (operating cycles) / at 480 V 4 000 product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof No ground-Fault monitoring version without product function No • other measurement function No • other measurement function No • at 40 °C 200 A • at 45 °C 184 A • at 50 °C 189 A • at 55 °C 182 A • at 55 °C 172 A	design of the overcurrent release	TM210
General technical data operating voltage / at AC / rated value 690 V power loss [W] / maximum 43 W power loss [W] / for rated value of the current / at AC / in hot operating state / per pole 14.17 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 AC-1 / at 690 V 4 000 electrical endurance (operating cycles) / at AC-1 / at 690 V 4 000 electrical endurance (operating cycles) / at 600 V 4 000 electrical endurance (operating cycles) / at 600 V 4 000 ground-fault monitoring version without product function No • communication function No • other measurement function No Net Weight 2 kg Current at 40 °C • at 40 °C 183 A • at 55 °C 183 A • at 55 °C 172 A	protection function of the overcurrent release	LI
operating voltage / at AC / rated value 690 V power loss [W] / maximum 43 W power loss [W] / for rated value of the current / at AC / in hot operating state / per pole 14.17 W mechanical service life (operating cycles) / typical 20 000 electrical endurance (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 AC V 8 000 electrical endurance (operating cycles) / at AC V 8 000 electrical endurance (operating cycles) / at AC V 8 000 electrical endurance (operating cycles) / at 480 V 8 000 electrical endurance (operating cycles) / at 600 V 4 000 product feature / for neutral conductors / upgradable/retrofittable No / stort-circuit and overload proof No ground-fault monitoring version without product function No • communication function No Net Weight 2 kg Current at 40 °C • at 40 °C 194 A • at 50 °C 183 A • at 50 °	number of poles	3
jower loss [W] / maximum 43 W power loss [W] / for rated value of the current / at AC / in hot operating state / per pole 14.17 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 AC0 V 8 000 electrical endurance (operating cycles) / at 600 V 4 000 product feature / for neutral conductors / upgradable/retrofittable /short-circuit and overload proof No ground-fault monitoring version without product function No • other measurement function No Net Weight 2 kg Current at 40 °C • at 40 °C 200 A • at 40 °C 194 A • at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	General technical data	
power loss [W] / for rated value of the current / at AC / in hot 14.17 W operating state / per pole 14.17 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 AC 0 V 8 000 electrical endurance (operating cycles) / at 600 V 4 000 product feature / for neutral conductors / upgradable/retrofittable No / short-circuit and overload proof without ground-fault monitoring version without product function No • other measurement function No Net Weight 2 kg Current 2000 A • at 40 °C 200 A • at 45 °C 194 A • at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	operating voltage / at AC / rated value	690 V
operating state / per polemechanical service life (operating cycles) / typical20 000electrical endurance (operating cycles) / at AC-1 / at 380/415 V8 000electrical endurance (operating cycles) / at 690 V4 000electrical endurance (operating cycles) / at 690 V8 000electrical endurance (operating cycles) / at 800 V8 000electrical endurance (operating cycles) / at 800 V4 000product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proofNoground-fault monitoring versionwithoutproduct functionNo• communication functionNo• other measurement functionNoNet Weight2 kgCurrentImarking / according to UL 489 / 100%-rated breaker• at 40 °C200 A• at 45 °C194 A• at 55 °C183 A• at 60 °C178 A• at 65 °C172 A	power loss [W] / maximum	43 W
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 AC V 8 000 electrical endurance (operating cycles) / at AB V 8 000 electrical endurance (operating cycles) / at AB V 8 000 electrical endurance (operating cycles) / at 600 V 4 000 product feature / for neutral conductors / upgradable/retrofittable No / short-circuit and overload proof without ground-fault monitoring version without product function No • communication function No • other measurement function No Net Weight 2 kg Current at 40 °C • at 40 °C 200 A • at 40 °C 194 A • at 50 °C 189 A • at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A		14.17 W
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/retrofittable / short-circuit and overload proof No ground-fault monitoring version without product function No • communication function No • other measurement function No Net Weight 2 kg Current	mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at 480 V 8 000 electrical endurance (operating cycles) / at 600 V 4 000 product feature / for neutral conductors / upgradable/retrofittable No / short-circuit and overload proof No ground-fault monitoring version without product function No • communication function No • other measurement function No Net Weight 2 kg Current Image: State Sta	electrical endurance (operating cycles) / at AC-1 / at 380/415 V	8 000
electrical endurance (operating cycles) / at 600 V 4 000 product feature / for neutral conductors / upgradable/retrofittable No / short-circuit and overload proof without ground-fault monitoring version without product function No • communication function No • other measurement function No Net Weight 2 kg Current No marking / according to UL 489 / 100%-rated breaker No operational current 200 A • at 40 °C 200 A • at 45 °C 194 A • at 55 °C 183 A • at 65 °C 172 A	electrical endurance (operating cycles) / at AC-1 / at 690 V	4 000
product feature / for neutral conductors / upgradable/retrofittable No / short-circuit and overload proof without ground-fault monitoring version without product function No • communication function No • other measurement function No Net Weight 2 kg Current marking / according to UL 489 / 100%-rated breaker No operational current 200 A • at 40 °C 194 A • at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	electrical endurance (operating cycles) / at 480 V	8 000
/ short-circuit and overload proof without ground-fault monitoring version without product function No • communication function No • other measurement function No Net Weight 2 kg Current No marking / according to UL 489 / 100%-rated breaker No operational current 200 A • at 40 °C 200 A • at 45 °C 194 A • at 50 °C 189 A • at 60 °C 178 A • at 65 °C 172 A	electrical endurance (operating cycles) / at 600 V	4 000
product function No • communication function No • other measurement function No Net Weight 2 kg Current marking / according to UL 489 / 100%-rated breaker No operational current e at 40 °C 200 A • at 40 °C 200 A 194 A • at 50 °C 189 A at 55 °C • at 60 °C 178 A at 65 °C • at 65 °C 172 A		No
• communication functionNo• other measurement functionNoNet Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breakerNooperational current200 A• at 40 °C200 A• at 45 °C194 A• at 55 °C183 A• at 60 °C178 A• at 65 °C172 A	ground-fault monitoring version	without
• other measurement functionNoNet Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breakerNooperational currentNo• at 40 °C200 A• at 45 °C194 A• at 55 °C189 A• at 55 °C183 A• at 60 °C178 A• at 65 °C172 A	product function	
Net Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breakerNooperational current• at 40 °C200 A• at 45 °C194 A• at 55 °C189 A• at 55 °C183 A• at 60 °C178 A• at 65 °C172 A	 communication function 	No
Current No marking / according to UL 489 / 100%-rated breaker No operational current 200 A • at 40 °C 200 A • at 45 °C 194 A • at 50 °C 189 A • at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	 other measurement function 	No
marking / according to UL 489 / 100%-rated breaker No operational current 200 A • at 40 °C 200 A • at 45 °C 194 A • at 50 °C 189 A • at 65 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	Net Weight	2 kg
operational current 200 A • at 40 °C 200 A • at 45 °C 194 A • at 50 °C 189 A • at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	Current	
• at 40 °C 200 A • at 45 °C 194 A • at 50 °C 189 A • at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	marking / according to UL 489 / 100%-rated breaker	No
• at 45 °C 194 A • at 50 °C 189 A • at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	operational current	
• at 50 °C 189 A • at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	• at 40 °C	200 A
• at 55 °C 183 A • at 60 °C 178 A • at 65 °C 172 A	● at 45 °C	194 A
• at 60 °C 178 A • at 65 °C 172 A	● at 50 °C	189 A
• at 65 °C 172 A	● at 55 °C	183 A
	• at 60 °C	178 A
• at 70 °C 167 A	• at 65 °C	172 A
	● at 70 °C	167 A

Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	Μ
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	85 kA
• at 480 V	35 kA
● at 600 V	18 kA
Adjustable parameters	
adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic	
• minimum	200 A
• maximum	200 A
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic	
• minimum	1 s
• maximum	1 s
adjustable response value setting current (li) / for I-tripping	
• minimum	2 000 A
• maximum	2 000 A
adjustable setting current (InN) / for N-tripping	
• minimum	0 A
• maximum	0 A
adjustable current response value current / of the current- dependent overload release	200 200 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	
	Without connection
arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit	Without
Auxiliary circuit	
	0
number of CO contacts / for auxiliary contacts	0
Accessories	Va
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 certificate of suitability / as approval for NAVAL (no combat	Yes
vessels) / supplement SB	
General Product Approval	
	Miscellaneous ERIC

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Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3VA5220-5ED31-1AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VA5220-5ED31-1AA0

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

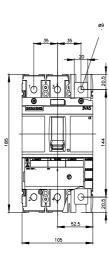
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5220-5ED31-1AA0

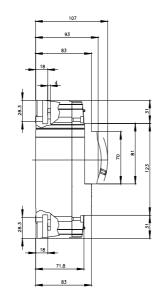
CAx-Online-Generator

http://www.siemens.com/cax

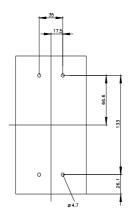
Tender specifications

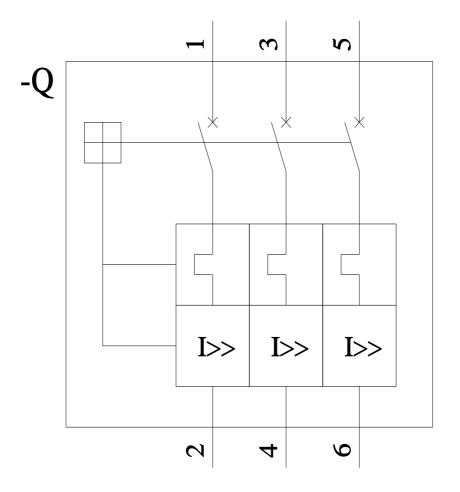
http://www.siemens.com/specifications

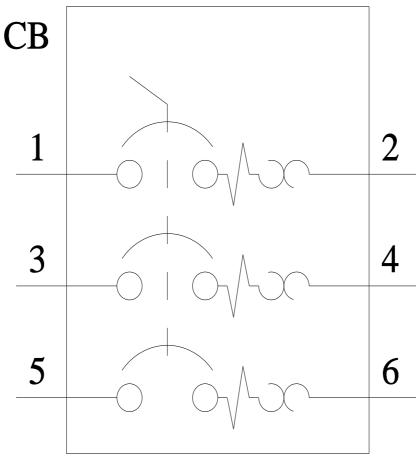




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