3VA5120-6ED31-1AA0

Data sheet



circuit breaker 3VA5 UL frame 125 breaking capacity class H 65kA @ 480V 3-pole, line protection TM210, FTFM, In=20A overload protection Ir=20A fixed short-circuit protection Ii=15 x In UL 489 SB (naval), 50° C without connection

product designation / according to UL file HEAM Molded-case circuit breaker product designation / according to UL file HEAM System protection design of the product designation / according to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type) design of the load switch / according to UL 489 / High-Intensity-Discharge circuit breaker (HOR Type) design of the load switch / according to UL 489 / High-Intensity-Discharge circuit breaker (HOR Type) design of the load switch / according to UL 489 / Switching Duty crub treaker (MIO Type) design of the boad switch / according to UL 489 / Switching Duty crub treaker (MIO Type) design of the overcurrent release TM210 protection function of the overcurrent release LU number of poles 3 Ceneral technical data operation with a switch of the current / at AC / in hot operating voltage / at AC / rated value 690 V power loss [W] / maximum 12.2 W power loss [W] / for rated value of the current / at AC / in hot operating stude / per pole mechanical service life (operating cycles) / at AC-1 / at 380/415 V about described endurance (operating cycles) / at AC-1 / at 680 V about described endurance (operating cycles) / at AC-1 / at 680 V about described endurance (operating cycles) / at AC-1 / at 680 V about described endurance (operating cycles) / at AC-1 / at 680 V about described endurance (operating cycles) / at AC-1 / at 680 V about described endurance (operating cycles) / at AC-1 / at 680 V about described endurance (operating cycles) / at AC-1 / at 680 V about described endurance (operating cycles) / at AC-1 / at 680 V about described endurance (operating cycles) / at AC-1 / at 580 V about described endurance (operating cycles) / at AC-1 / at 580 V about described endurance (operating cycles) / at AC-1 / at 580 V about described endurance (operating cycles) / at AC-1 / at 580 V about described endurance (operating cycles) / at 480 V about described endurance (operating cycles) / at 480 V about described endurance (operating cycles) / at 480 V about	Model	
product designation / according to UL file	product brand name	SENTRON
design of the product design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type) design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (HD Type) design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type) design of the vovecurrent release TM210 protection function of the overcurrent release protection function of the overcurrent release TM210 protection function of the overcurrent release LI number of poles operating voltage / at AC / rated value operating state / per pole mechanical service life (operating cycles) / typical 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 800 V electrical endurance (operating cycles) / at 800 V operating voltage / at AC / rated value operating	product designation	Molded-case circuit breaker
design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigeration circulat breaker (HACR Type) design of the load switch / according to UL 489 / High-Intensity-Discharge circuit breaker (HID Type) design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type) design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type) design of the overcurrent release TMZ10 protection function of the overcurrent release ILI number of poles 3 Ceneral technical data operating voltage / at AC / rated value power loss [W] / maximum 12.2 W power loss [W] / maximum 12.2 W power loss [W] / maximum 12.2 W 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) / at AC-1 / at 380415 V electrical endurance (operating cycles) / at 480 V electrical endurance (operating cycl	product designation / according to UL file	HEAM
Conditioning, and Refrigeration circuit breaker (HACR Type) design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (FMD Type) design of the load switch / according to UL 489 / High-Intensity- protection function of the overcurrent release protection function function protect feature / for protecting overland protection function of the overcurrent release protecting endurance (operating cycles) / typical electrical endurance (operating cycles) / at AC-1 / at 380/415 V electrical endurance (operating cycles) / at AC-1 / at 380/415 V electrical endurance (operating cycles) / at AC-1 / at 380/415 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V el	design of the product	System protection
Discharge circuit breaker (HID Type) design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type) design of the overcurrent release TM210 protection function of the overcurrent release number of poles 3 General technical data 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) / at AC-1 / at 880/415 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at AC-0 V product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof ground-fault monitoring version product function • other measurement function No Net Weight marking / according to UL 489 / 100%-rated breaker operational current • at 40 °C • at 50 °C • at 50 °C • at 60		Yes
design of the overcurrent release protection function of the overcurrent release LI number of poles 3 General technical data operating voltage / at AC / rated value 690 V power loss [W] / maximum 12.2 W power loss [W] / for rated value of the current / at AC / in hot operating state / per pole 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-1 / at 690 V 4 000 electrical endurance (operating cycles) / at AC-1 / at 690 V 4 000 electrical endurance (operating cycles) / at 480 V 4 000 product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof ground-fault monitoring version without product function No other measurement function No other measurement function No No Net Weight 0.88 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C 20 A • at 55 °C 20 A • at 55 °C 19 A • at 55 °C 19 A • at 60 °C 19 A		Yes
Description function of the overcurrent release Li		Yes
number of poles 3	design of the overcurrent release	TM210
General technical data operating voltage / at AC / rated value 690 V power loss [W] / maximum 12.2 W power loss [W] / maximum 4.07 W operating state / per pole 4.07 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/retrofittable / short-circuit and overload proof ground-fault monitoring version without product function No • other measurement function No Net Weight 0.88 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C • at 50 °C • at 55 °C • at 55 °C • at 65 °C • 19 A • at 65 °C	protection function of the overcurrent release	LI
operating voltage / at AC / rated value 690 V power loss [W] / maximum 12.2 W power loss [W] / for rated value of the current / at AC / in hot operating state / per pole 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/retrofittable / short-circuit and overload proof ground-fault monitoring version without product function No Net Weight 0.88 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C 20 A • at 50 °C 19 A • at 60 °C 19 A • at 60 °C 19 A	number of poles	3
Dower loss [W] / maximum	General technical data	
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole 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 480 V 4 000 product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof ground-fault monitoring version without product function No • other measurement function No Net Weight 0.88 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C 20 A • at 45 °C 20 A • at 55 °C 19 A • at 60 °C 19 A • at 60 °C 19 A • at 65 °C 18 A	operating voltage / at AC / rated value	690 V
operating state / per pole 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 690 V 4 000 product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof ground-fault monitoring version without product function No e other measurement function No Net Weight 0.88 kg Current marking / according to UL 489 / 100%-rated breaker No operational current e at 40 °C 20 A e at 45 °C 20 A e at 55 °C 19 A e at 65 °C 19 A e at 65 °C 19 A e at 65 °C 19 A	power loss [W] / maximum	12.2 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 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 ground-fault monitoring version without product function		4.07 W
electrical endurance (operating cycles) / at AC-1 / at 690 V	mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at 480 V electrical endurance (operating cycles) / at 600 V product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof ground-fault monitoring version product function communication function other measurement function No No Net Weight Current marking / according to UL 489 / 100%-rated breaker operational current at 40 °C at 45 °C at 45 °C at 45 °C at 55 °C 19 A at 60 °C at 66 °C 18 A	electrical endurance (operating cycles) / at AC-1 / at 380/415 V	8 000
electrical endurance (operating cycles) / at 600 V product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof ground-fault monitoring version other measurement function No No Net Weight Current marking / according to UL 489 / 100%-rated breaker operational current other 40 °C other 45 °C	electrical endurance (operating cycles) / at AC-1 / at 690 V	4 000
product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof ground-fault monitoring version without product function • communication function No • other measurement function No Net Weight 0.88 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C 20 A • at 45 °C 20 A • at 50 °C 19 A • at 65 °C 19 A • at 60 °C 19 A • at 65 °C 18 A	electrical endurance (operating cycles) / at 480 V	8 000
/ short-circuit and overload proof ground-fault monitoring version without product function	electrical endurance (operating cycles) / at 600 V	4 000
product function		No
 ◆ communication function No Nother measurement function No Net Weight 0.88 kg Current marking / according to UL 489 / 100%-rated breaker No operational current at 40 °C at 45 °C at 45 °C at 50 °C 19 A at 60 °C at 60 °C 18 A 	ground-fault monitoring version	without
● other measurement function No Net Weight 0.88 kg Current marking / according to UL 489 / 100%-rated breaker operational current ● at 40 °C ● at 45 °C ● at 50 °C ● at 55 °C ● at 60 °C ● at 65 °C 19 A ● at 65 °C 18 A	product function	
Net Weight 0.88 kg Current marking / according to UL 489 / 100%-rated breaker No operational current 20 A • at 40 °C 20 A • at 50 °C 19 A • at 55 °C 19 A • at 60 °C 19 A • at 65 °C 18 A	 communication function 	No
Current marking / according to UL 489 / 100%-rated breaker No operational current 20 A • at 40 °C 20 A • at 50 °C 19 A • at 55 °C 19 A • at 60 °C 19 A • at 65 °C 18 A	 other measurement function 	No
marking / according to UL 489 / 100%-rated breaker No operational current 20 A • at 40 °C 20 A • at 55 °C 20 A • at 55 °C 19 A • at 60 °C 19 A • at 65 °C 18 A	Net Weight	0.88 kg
operational current • at 40 °C • at 45 °C • at 50 °C • at 55 °C • at 60 °C • at 65 °C 18 A	Current	
 at 40 °C at 45 °C at 50 °C at 55 °C at 60 °C at 65 °C 19 A at 65 °C 19 A at 65 °C 18 A 	marking / according to UL 489 / 100%-rated breaker	No
 at 45 °C at 50 °C 19 A at 55 °C 19 A at 60 °C at 65 °C 18 A 	operational current	
 at 50 °C at 55 °C at 60 °C at 65 °C 19 A 18 A 	• at 40 °C	20 A
 at 55 °C at 60 °C at 65 °C 19 A 19 A 18 A 	• at 45 °C	20 A
• at 60 °C 19 A • at 65 °C 18 A	• at 50 °C	19 A
• at 65 °C 18 A	● at 55 °C	19 A
	• at 60 °C	19 A
• at 70 °C 18 A	• at 65 °C	18 A
	• at 70 °C	18 A

Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	H
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	150 kA
● at 480 V	65 kA
• at 600 Y/347 V	25 kA
Adjustable parameters	
adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic	
• minimum	20 A
• maximum	20 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	300 A
• maximum	300 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	20 20 A
product function / grounding protection	No
lechanical Design	
product component	
 undervoltage release 	No
 voltage trigger 	No
trip indicator	No
height [in]	5.51 in
height	140 mm
width [in]	3 in
width	76.2 mm
depth [in]	3.01 in
depth	76.5 mm
Connections	
arrangement of electrical connectors / for main current circuit	Without connection
type of electrical connection / for main current circuit	Without
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	II TV
during operation / minimum	-25 °C
	70 °C
	70 0
during operation / maximum	40 °C
during operation / maximum during storage / minimum	-40 °C
 during operation / maximum during storage / minimum during storage / maximum 	-40 °C 80 °C
during operation / maximumduring storage / minimum	

Confirmation









Miscellaneous

General Product Approval

EMC

Declaration of Conformity

Test Certificates

Marine / Shipping









Type Test Certificates/Test Report



Marine / Shipping

other









Confirmation

Miscellaneous

other

Miscellaneous

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=3VA5120-6ED31-1AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VA5120-6ED31-1AA0

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

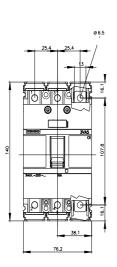
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5120-6ED31-1AA0

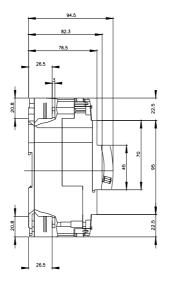
CAx-Online-Generator

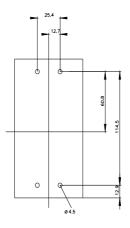
http://www.siemens.com/cax

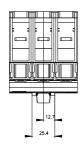
Tender specifications

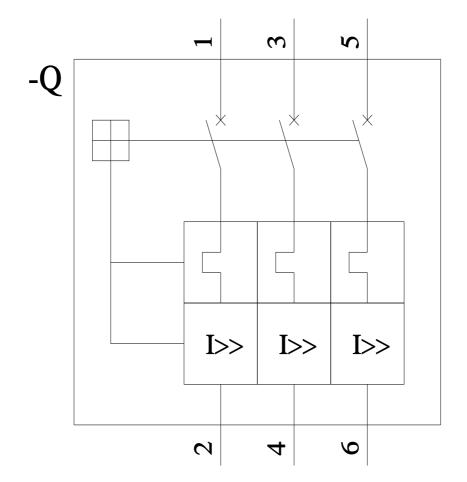
http://www.siemens.com/specifications

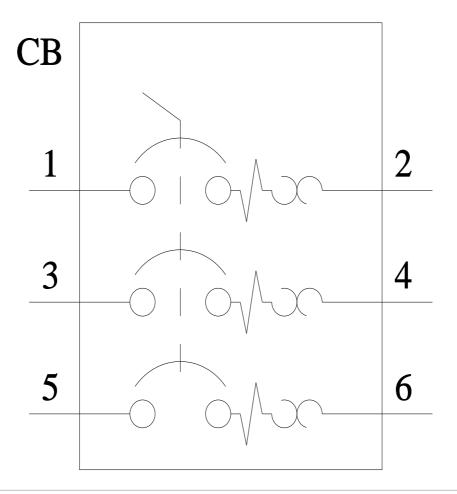












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Mouser Electronics

Authorized Distributor

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Siemens:

3VA51206ED311AA0