3VA5180-4EC36-1AA0

Data sheet



circuit breaker 3VA5 UL frame 125 breaking capacity class S 25kA @ 480 V 3-pole, line protection TM230, FTAM, In=80A overload protection Ir=80A fixed short-circuit protection Ii=5...10 x In UL489 SB (naval), 50 deg. cel. cable connection on both sides

product designation / according to UL file SEAM Molded-case circuit breaker product designation / according to UL file SEAM 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-bischarge circuit breaker (HOT Type) design of the load switch / according to UL 489 / High-intensity-bischarge circuit breaker (HOT Type) design of the load switch / according to UL 489 / Switching Duty circuit breaker (HOT Type) design of the covarcurrent release TM230 protection function of the overcurrent release LI number of poles 3 3 Ceneral technical data operating voltage / at AC / rated value 690 V power loss [W] / maximum 19.3 W power loss [W] / maximum 19.3 W power loss [W] / for rated value of the current / at AC / in hot operating voltage / at AC / rated value 600 V power loss [W] / for rated value of the current / at AC / in hot operating service life (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at AC - / at 380/415 V 8000 electrical endurance (operating cycles) / at 500 V 8000 electrical endurance (operating cycles) / at 500 V 8000 electrical endurance (operating c	Model	
product designation / according to UL file SEAM System protection design of the product System protection System protection 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 (FWD Type) design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type) design of the overcurrent release TM230 protection function of the overcurrent release LI number of poles 3 3 Ceneral technical data 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 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 690 V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycles) / at ABO V 4 000 electrical endurance (operating cycle	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 (ISVID Type) design of the load switch / according to UL 489 / Switching Duty circuit breaker (ISVID Type) design of the overcurrent release protection function of the overcurrent of the overcurrent of the overcurrent release protection function of the overcurrent of the overcurrent of the overcurrent of the overcurrent overcurre	product designation	Molded-case circuit breaker
design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refigeration circult 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 / High-Intensity Discharge circuit breaker (SWD Type) design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type) design of the overcurrent release TM230 protection function of the overcurrent release LI number of poles 3 Coneral technical data operating voltage / at AC / rated value 690 V power loss [W] / maximum 19.3 W power loss [W] / maximum 19.3 W power loss [W] / maximum 19.3 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 680 V 4 000 electrical endurance (operating cycles) / at 480 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 8 000 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 8 000 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 8 000 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 8 000 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 8 000 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 8 000 electrical endurance (operating cycles) / at 480 V 8	product designation / according to UL file	SEAM
Conditioning, and Refrigeration circuit 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 overcurrent release TM230 protection function of the overcurrent release LI number of poles 3 Coneral technical data operating voltage / at AC / rated value power loss [W] / maximum 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) / at AC-1 / at 380/415 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at 800 V electrical endurance (operating cycles)	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 TM230 protection function of the overcurrent release III number of poles 3 General technical data operating voltage / at AC / rated value power loss [W] / maximum 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) / at AC-1 / at 890 V electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at ABO V electrical endurance (operating cycles) / at 480 V electrical endurance (operating cycles) / at 480 V product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof ground-fault monitoring version without product function • other measurement function No Net Weight Curront marking / according to UL 489 / 100%-rated breaker operational current • at 40 °C • at 50 °C • at 60		Yes
design of the overcurrent release protection function of the overcurrent release LI number of poles 3 Ceneral technical data operating voltage / at AC / rated value 690 V power loss [W] / maximum 19.3 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) / ta 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 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 • other measurement function No No Net Weight 0.951 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C 80 A at 45 °C 78 A • at 50 °C 774 A • at 50 °C 774 A • at 60 °C		No
protection function of the overcurrent release		No
number of poles 3	design of the overcurrent release	TM230
General technical data operating voltage / at AC / rated value 690 V power loss [W] / maximum 19.3 W power loss [W] / maximum 6.43 W operating state / per pole 6.43 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 480 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 / short-circuit and overload proof ground-fault monitoring version without product function No • other measurement function No Net Weight 0.951 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C 80 A • at 55 °C 78 A • at 55 °C 77 A • at 55 °C 74 A • at 60 °C 73 A	protection function of the overcurrent release	LI
operating voltage / at AC / rated value 690 V power loss [W] / maximum 19.3 W power loss [W] / for rated value of the current / at AC / in hot operating state / per pole 6.43 W operating state / per pole 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 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 0.951 kg Current marking / according to UL 489 / 100%-rated breaker No operational current e at 40 °C 80 A e at 50 °C 77 A e at 55 °C 76 A e at 60 °C 74 A e at 60 °C 73 A	number of poles	3
19.3 W	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 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 0.951 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C 80 A • at 45 °C 78 A • at 55 °C 76 A • at 60 °C 74 A • at 65 °C 73 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 600 V 4 000 product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof ground-fault monitoring version without product function No • ordner measurement function No Net Weight 0.951 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C 80 A • at 45 °C 78 A • at 55 °C 76 A • at 60 °C 74 A • at 65 °C 73 A	power loss [W] / maximum	19.3 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 • communication function • other measurement function No Net Weight 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 73 A		6.43 W
electrical endurance (operating cycles) / at AC-1 / at 690 V electrical endurance (operating cycles) / at 480 V 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 vithout product function • communication function • other measurement function No No Net Weight Current marking / according to UL 489 / 100%-rated breaker • at 40 °C • at 45 °C • at 55 °C • at 55 °C • at 60 °C • at 65 °C 73 A	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 Net Weight Current marking / according to UL 489 / 100%-rated breaker operational current at 40 °C at 45 °C at 55 °C at 60 °C at 65 °C 73 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 product function communication function other measurement function No Net Weight Current marking / according to UL 489 / 100%-rated breaker operational current at 40 °C at 45 °C at 45 °C at 55 °C at 60 °C at 60 °C at 65 °C 73 A	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 0.951 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C 80 A • at 45 °C 78 A • at 50 °C 77 A • at 55 °C 76 A • at 60 °C 74 A • at 65 °C 73 A	electrical endurance (operating cycles) / at 480 V	8 000
/ short-circuit and overload proof ground-fault monitoring version ocommunication function other measurement function No Net Weight Current marking / according to UL 489 / 100%-rated breaker operational current oat 40 °C oat 45 °C oat 55 °C oat 60 °C oat 65 °C vithout without without No No No No 80 A 77 A 76 A 76 A 78	electrical endurance (operating cycles) / at 600 V	4 000
product function		No
 ◆ communication function No Nother measurement function No Net Weight 0.951 kg Current marking / according to UL 489 / 100%-rated breaker No operational current • at 40 °C • at 45 °C • at 50 °C • at 55 °C • at 60 °C • at 60 °C • at 65 °C 73 A 	ground-fault monitoring version	without
● other measurement function No Net Weight 0.951 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 73 A	product function	
Net Weight 0.951 kg Current marking / according to UL 489 / 100%-rated breaker No operational current 80 A • at 40 °C 80 A • at 45 °C 78 A • at 50 °C 77 A • at 55 °C 76 A • at 60 °C 74 A • at 65 °C 73 A	 communication function 	No
Current marking / according to UL 489 / 100%-rated breaker No operational current 80 A • at 40 °C 80 A • at 45 °C 78 A • at 50 °C 77 A • at 55 °C 76 A • at 60 °C 74 A • at 65 °C 73 A	 other measurement function 	No
marking / according to UL 489 / 100%-rated breaker No operational current 80 A • at 40 °C 80 A • at 45 °C 78 A • at 50 °C 77 A • at 55 °C 76 A • at 60 °C 74 A • at 65 °C 73 A	Net Weight	0.951 kg
operational current • at 40 °C • at 45 °C • at 50 °C • at 55 °C • at 60 °C • at 65 °C • at 65 °C • at 65 °C	Current	
 at 40 °C at 45 °C at 50 °C 77 A at 55 °C at 60 °C at 65 °C 73 A 	marking / according to UL 489 / 100%-rated breaker	No
 at 45 °C at 50 °C at 55 °C at 60 °C at 65 °C 73 A 	operational current	
 at 50 °C at 55 °C at 60 °C at 65 °C 73 A 	• at 40 °C	80 A
• at 55 °C 76 A • at 60 °C 74 A • at 65 °C 73 A	• at 45 °C	78 A
• at 60 °C 74 A • at 65 °C 73 A	• at 50 °C	77 A
• at 65 °C 73 A	● at 55 °C	76 A
	• at 60 °C	74 A
• at 70 °C 72 A	• at 65 °C	73 A
	● at 70 °C	72 A

Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	S
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	65 kA
• at 480 V	25 kA
● at 600 Y/347 V	14 kA
Adjustable parameters	
adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic	
• minimum	80 A
maximum	80 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	400 A
maximum	800 A
adjustable absolute value setting current (InN) / for N-tripping	
• minimum	0 A
• maximum	0 A
adjustable current response value current / of the current-dependent overload release	80 80 A
product function / grounding protection	No
Mechanical Design	
product component	
undervoltage release	No
 voltage trigger 	No
trip indicator	No
height [in]	5.51 in
height	140 mm
width [in]	3 in
type of connectable conductor cross-sections / of the round conductor terminal / stranded	1 x (8 AWG - 3/0)
width	76.2 mm
depth [in]	3.01 in
depth	76.5 mm
Connections	
arrangement of electrical connectors / for main current circuit	Front connection
type of electrical connection / for main current circuit	circular conductor terminal on both sides
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	
during operation / minimum	-25 °C
during operation / maximum	70 °C
during storage / minimum	-40 °C
during storage / maximum during storage / maximum	80 °C
Certificates	
	Voc
certificate of suitability / as approval for NAVAL (no combat vessels) / supplement SB	Yes











General Product Approval

EMC

Declaration of Conformity

Test Certificates

Marine / Shipping









Type Test Certificates/Test Report



Marine / Shipping

other



Miscellaneous

Confirmation

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=3VA5180-4EC36-1AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VA5180-4EC36-1AA0

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

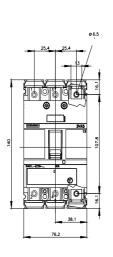
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA5180-4EC36-1AA0

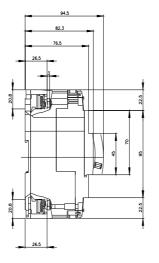
CAx-Online-Generator

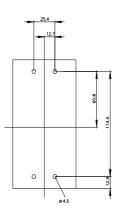
http://www.siemens.com/cax

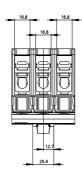
Tender specifications

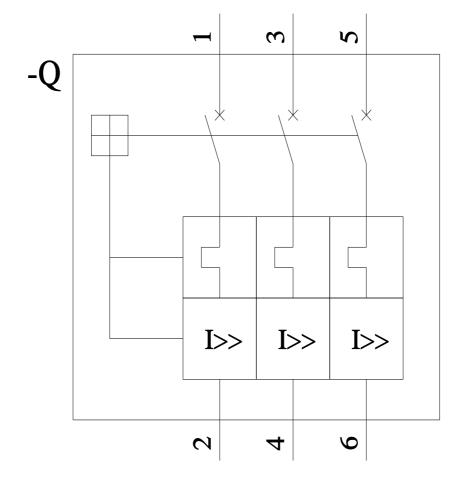
http://www.siemens.com/specifications

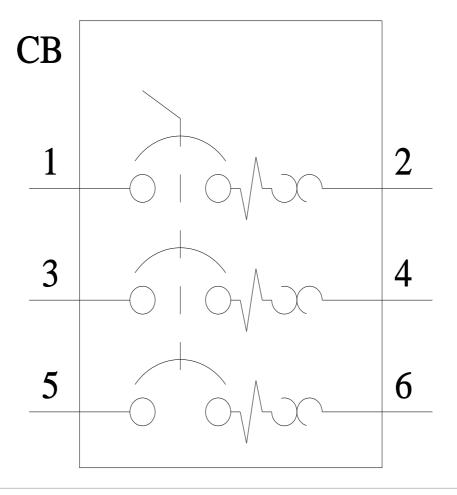












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