# SIEMENS

## Data sheet

# 3VA5140-4EC31-1AA0



circuit breaker 3VA5 UL frame 125 breaking capacity class S 25kA @ 480V 3-pole, line protection TM230, FTAM, In=40A overload protection Ir=40A fixed short-circuit protection li=5...10 x In UL 489 SB (naval), 50° C without connection

product branch name         SENTRON           product designation / according to UL file         SEAM           design of the product         System protection           design of the bad switch / according to UL 489 / Healing, Arr Conditioning, and Retrigeration circuit breaker (HACR Type)         Yes           design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (HIACR Type)         No           design of the load switch / according to UL 489 / Switching Duty circuit breaker (HIACR Type)         No           design of the load switch / according to UL 489 / Switching Duty circuit breaker (HIACR Type)         No           design of the overcurrent release         Ll         number of poles           operating voltage / at AC / rated value         690 V         900 V           opwert loss [W] / for rated value of the current / at AC / in hot         3.73 W         3.73 W           operating voltage / at AC / rated value         690 V         900 O           opwert loss [W] / for rated value of the current / at AC / in hot         3.73 W         9.000           electrical endurance (operating cycles) / typical         20 000         20 000           electrical endurance (operating cycles) / at AC / 1 at 809 V         8 000         4 000           product function         No         No         1 0 0 0           electrical endurance (operating cycles) / at BO	Model	
product designation / according to UL file         SEAM           design of the product         System protection           design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (HACR Type)         Yes           design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (HIT Type)         No           design of the load switch / according to UL 489 / Switching Duty circuit breaker (HIT Type)         No           design of the load switch / according to UL 489 / Switching Duty circuit breaker (HIT Type)         No           design of the overcurrent release         TM230           protection function of the overcurrent release         IL           number of poles         3           Ceneral technical data         690 V           power loss [W] / maximum         11.2 W           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) / typical         20 000           electrical endurance (operating cycles) / typical         8 000           electrical endurance (operating cycles) / typical         8 000           ground-fault monitoring version         without           product feature / for neutral conductors / upgradable/retrofitable         No	product brand name	SENTRON
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 (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 circuit breaker (SWD Type)         No           design of the overcurrent release         TM230           protection function of the overcurrent release         LI           number of poles         3           Concort tochnical data         690 V           power loss [W] / naximum         11.2 W           power loss [W] / for rated value of 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 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-faultrance (operating cycles) / at AC-1 / at 380/415 V         8 000	product designation	Molded-case circuit breaker
design of the load switch / according to UL 489 / HacRing, Air Conditioning, and Refigeration circuit breaker (HACR Type)     Yes       design of the load switch / according to UL 489 / HacR Type)     No       design of the load switch / according to UL 489 / HacR Type)     No       design of the load switch / according to UL 489 / HacR Type)     No       design of the load switch / according to UL 489 / HacR Type)     No       design of the load switch / according to UL 489 / HacR Type)     No       design of the load switch / according to UL 489 / HacR Type)     No       design of the load switch / according to UL 489 / HacR Type)     No       design of the load switch / according to UL 489 / HacR Type)     No       design of the load switch / according to UL 489 / HacR Type)     No       design of the load switch / according to UL 489 / HacR Type)     No       operating to 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     3.73 W       operating state / per pole     3.73 W       electrical endurance (operating cycles) / at AC-1 / at 380/415 V     8.000       electrical endurance (operating cycles) / at AC0 V     8.000       electrical endurance (operating cycles) / at A60 V     8.000       ground-fault monito	product designation / according to UL file	SEAM
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       TM230         protection function of the overcurrent release       LI         number of poles       3         General tochnical data       690 V         operating voltage / at AC / rated value       690 V         power loss [W] / maximum       11.2 W         operating voltage / at AC / rated value of the current / at AC / in hot operating state / per pole       3.73 W         electrical endurance (operating cycles) / typical       20 000         electrical endurance (operating cycles) / ta 480 V       8 000         electrical endurance (operating cycles) / ta 480 V       8 000         electrical endurance (operating cycles) / at 480 V       8 000         electrical endurance (operating cycles) / at 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         other measurement function       9	design of the product	System protection
Discharge circuit breaker (HID Type)       No         design of the load switch / according to UL 489 / Switching Duty       No         circuit breaker (SWD Type)       TM230         protection function of the overcurrent release       Ll         number of poles       3         Ceneral tochnical data       690 V         power loss [W] / maximum       11.2 W         power loss [W] / for rated value of the current / at AC / in hot       3.73 W         operating soltage / at AC / rated value of the current / at AC / in hot       3.73 W         operating soltage / at AC / rated value of the current / at AC / in hot       3.73 W         operating soltage / at AC / rated value of the current / at 800 V       4000         electrical endurance (operating cycles) / ta AC-1 / at 380/415 V       8 000         electrical endurance (operating cycles) / at AC0 V       8 000         electrical endurance (operating cycles) / at 480 V       8 000         electrical endurance (operating cycles) / at 480 V       4 000         ground-fault monitoring version       without         product fuection       No         softmanne       • communication function         • other measument function       No         • other measument function       960 g         Current       40 A         •		Yes
circuit breaker (SWD Type)       TM230         design 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       11.2 W         power loss [W] / maximum       3.73 W         mechanical service life (operating cycles) / typical       20 000         electrical endurance (operating cycles) / typical       8 000         ground-fault monitoring cycles) / at 600 V       4 000         product feature / for neutral conductors / upgradable/retrofittable       No         otomunication function       No         • other measurement function       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 [M] / maximum       11.2 W         power loss [M] / for rated value of the current / at AC / in hot operating state / per pole       3.73 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 600 V       4 000         electrical endurance (operating cycles) / at AC-1 / at 600 V       4 000         electrical endurance (operating cycles) / at AC-1 / 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         • other measurement function       No         operating / according to UL 489 / 100%-rated breaker       No         operating / according to UL 489 / 100%-rated breaker       No         operational		No
number of poles     3       General technical data     690 V       power loss [W] / maximum     11.2 W       power loss [W] / for rated value of the current / at AC / in hot operating state / per pole     3.73 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 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 400 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       • other measurement function     No       • other measurement function     No       • at 40 °C     40 A       • at 40 °C     39 A       • at 60 °C     37 A       • at 60 °C     37 A       • at 60 °C     37 A	design of the overcurrent release	TM230
General 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     3.73 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 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 600 V     4 000       product feature / for neutral conductors / upgradable/retrofittable     No       / stort-circuit and overload proof     without       ground-fault monitoring version     without       product function     No       • other measurement function     No       Net Weight     960 g       Current     at 40 °C       • at 40 °C     40 A       • at 55 °C     39 A       • at 55 °C     37 A	protection function of the overcurrent release	LI
operating voltage / at AC / rated value         690 V           power loss [W] / maximum         11.2 W           power loss [W] / for rated value of the current / at AC / in hot operating state / per pole         3.73 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 ABO V         8 000           electrical endurance (operating cycles) / at ABO V         8 000           electrical endurance (operating cycles) / at ABO 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           Not Weight         960 g           Current         • at 40 °C           • at 40 °C         40 A           • at 40 °C         39 A           • at 50 °C         39 A           • at 50 °C         38 A           • at 60 °C	number of poles	3
intermediate       11.2 W         power loss [W] / for rated value of the current / at AC / in hot operating state / per pole       3.73 W         mechanical service life (operating cycles) / typical       20 000         electrical endurance (operating cycles) / typical       20 000         electrical endurance (operating cycles) / at AC-1 / at 880/415 V       8 000         electrical endurance (operating cycles) / at AC-1 / at 690 V       4 000         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       960 g         Current       • at 40 °C         • at 40 °C       39 A         • at 40 °C       39 A         • at 40 °C       39 A         • at 55 °C       38 A         • at 60 °C       37 A	General technical data	
power loss [W] / for rated value of the current / at AC / in hot       3.73 W         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 A0 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 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       960 g         Current       value         marking / according to UL 489 / 100%-rated breaker       No         operational current       40 A         • at 45 °C       39 A         • at 55 °C       38 A         • at 60 °C       37 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 480 V8 000electrical endurance (operating cycles) / at 480 V8 000electrical endurance (operating cycles) / at 480 V4 000product feature / for neutral conductors / upgradable/retrofittable / shot-circuit and overload proofNoground-fault monitoring versionwithoutproduct functionNo• communication functionNo• other measurement functionNoNet Weight960 gCurrentmarking / according to UL 489 / 100%-rated breaker• at 40 °C40 A• at 40 °C39 A• at 50 °C38 A• at 60 °C37 A• at 60 °C37 A• at 65 °C37 A	power loss [W] / maximum	11.2 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 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         • other measurement function       No         operational current       960 g         current       at 40 °C         • at 40 °C       40 A         • at 40 °C       39 A         • at 50 °C       38 A         • at 55 °C       38 A         • at 60 °C       37 A		3.73 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       960 g         Current       marking / according to UL 489 / 100%-rated breaker       No         operational current       40 A         • at 40 °C       40 A         • at 45 °C       39 A         • at 55 °C       38 A         • at 60 °C       37 A	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       without         ground-fault monitoring version       without         product function       No         • communication function       No         • other measurement function       No         Net Weight       960 g         Current       Mo         • at 40 °C       40 A         • at 40 °C       39 A         • at 50 °C       38 A         • at 55 °C       38 A         • at 60 °C       37 A         • at 65 °C       37 A	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       960 g         Current       No         marking / according to UL 489 / 100%-rated breaker       No         operational current       40 A         • at 40 °C       40 A         • at 45 °C       39 A         • at 55 °C       38 A         • at 65 °C       37 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       960 g         Current       Mo         marking / according to UL 489 / 100%-rated breaker       No         operational current       40 A         • at 40 °C       40 A         • at 50 °C       39 A         • at 60 °C       37 A         • at 65 °C       37 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       960 g         Current       No         marking / according to UL 489 / 100%-rated breaker       No         operational current       40 A         • at 40 °C       40 A         • at 50 °C       39 A         • at 50 °C       38 A         • at 60 °C       37 A	electrical endurance (operating cycles) / at 600 V	4 000
product function       No         • communication function       No         • other measurement function       No         Net Weight       960 g         Current       marking / according to UL 489 / 100%-rated breaker       No         operational current       • at 40 °C       40 A         • at 40 °C       39 A       39 A         • at 50 °C       39 A       39 A         • at 55 °C       38 A       at 60 °C         • at 65 °C       37 A       37 A		No
• communication functionNo• other measurement functionNoNet Weight960 gCurrentmarking / according to UL 489 / 100%-rated breakerNooperational current40 A• at 40 °C40 A• at 55 °C39 A• at 55 °C38 A• at 60 °C37 A• at 65 °C37 A	ground-fault monitoring version	without
• other measurement functionNoNet Weight960 gCurrentmarking / according to UL 489 / 100%-rated breakerNooperational current40 A• at 40 °C40 A• at 45 °C39 A• at 55 °C39 A• at 55 °C38 A• at 60 °C37 A• at 65 °C37 A	product function	
Net Weight960 gCurrentNomarking / according to UL 489 / 100%-rated breakerNooperational current40 A• at 40 °C40 A• at 45 °C39 A• at 55 °C39 A• at 55 °C38 A• at 60 °C37 A• at 65 °C37 A	<ul> <li>communication function</li> </ul>	No
Current       No         marking / according to UL 489 / 100%-rated breaker       No         operational current       40 A         • at 40 °C       40 A         • at 45 °C       39 A         • at 50 °C       39 A         • at 55 °C       38 A         • at 60 °C       37 A         • at 65 °C       37 A	<ul> <li>other measurement function</li> </ul>	No
marking / according to UL 489 / 100%-rated breakerNooperational current40 A• at 40 °C40 A• at 45 °C39 A• at 50 °C39 A• at 55 °C38 A• at 60 °C37 A• at 65 °C37 A	Net Weight	960 g
operational current         40 A           • at 40 °C         40 A           • at 45 °C         39 A           • at 50 °C         39 A           • at 55 °C         38 A           • at 60 °C         37 A           • at 65 °C         37 A	Current	
• at 40 °C       40 A         • at 45 °C       39 A         • at 50 °C       39 A         • at 55 °C       38 A         • at 60 °C       37 A         • at 65 °C       37 A	marking / according to UL 489 / 100%-rated breaker	No
• at 45 °C       39 A         • at 50 °C       39 A         • at 55 °C       38 A         • at 60 °C       37 A         • at 65 °C       37 A	operational current	
• at 50 °C       39 A         • at 55 °C       38 A         • at 60 °C       37 A         • at 65 °C       37 A	● at 40 °C	40 A
• at 55 °C 38 A • at 60 °C 37 A • at 65 °C 37 A	● at 45 °C	39 A
• at 60 °C 37 A • at 65 °C 37 A	● at 50 °C	39 A
• at 65 °C 37 A	● at 55 °C	38 A
	● at 60 °C	37 A
• at 70 °C 36 A	• at 65 °C	37 A
	● at 70 °C	36 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						
<ul> <li>minimum</li> <li>maximum</li> </ul>	40 A 40 A					
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic						
• minimum	1 s					
• maximum	1s					
adjustable response value setting current (li) / for I-tripping						
• minimum	200 A					
• maximum	400 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	28 40 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					
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						
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 vessels) / supplement SB	Yes					
General Product Approval						

General Product Approval	EMC	Declaration of Conformity		Test Certificates	Marine / Shipping
EHC	RCM	CE EG-Konf.	UK CA	<u>Type Test Certific-</u> ates/Test Report	ABS
Marine / Shipping	other				
KARS	Confirmation	<u>Miscellaneous</u>	<u>Miscellaneous</u>		

#### 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=3VA5140-4EC31-1AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VA5140-4EC31-1AA0

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

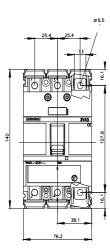
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA5140-4EC31-1AA0

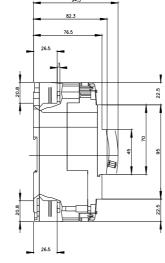
CAx-Online-Generator

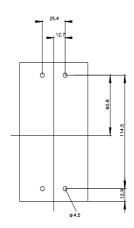
http://www.siemens.com/cax

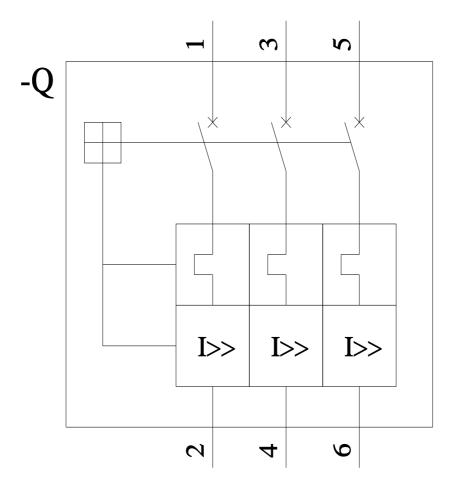
Tender specifications

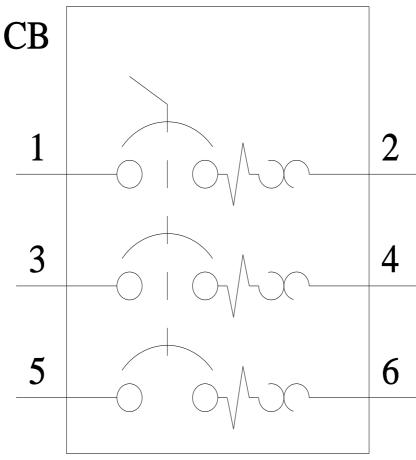
http://www.siemens.com/specifications











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Siemens: 3VA51404EC311AA0