# SIEMENS

### Data sheet

## 3VA5225-5ED31-1AA0



circuit breaker 3VA5 UL frame 250 breaking capacity class M 35kA @ 480V 3-pole, line protection TM210, FTFM, In=250A overload protection Ir=250A 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 load switch / according to UL 489 / Heading, Air         Yes           Conditioning, and Refigeration circuit breaker (HACR Type)         Yes           design of the load switch / according to UL 489 / High-intensity-         No           Dackarge circuit breaker (HACR Type)         No           design of the load switch / according to UL 489 / High-intensity-         No           design of the load switch / according to UL 489 / Migh-intensity-         No           design of the load switch / according to UL 489 / Migh-intensity-         No           design of the load switch / according to UL 489 / Migh-intensity-         No           gortation to the overcurrent release         TU210           number of poles         3           Contral technical data         operation switch / according to UL 489 / Might according to UL 480 / Mi	Model	
product designation / according to UL file         MFAM           design of the product         System protection           design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (HTT Type)         Yes           design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (HTT Type)         No           design of the load switch / according to UL 489 / Switching Duty circuit Dreaker (SWD Type)         No           design of the overcurrent release         TM210           protection function of the overcurrent release         IL           number of poles         3           Central technical data         690 V           power loss [W] / maximum         58 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         8 000           electrical endurance (operating cycles) / ta 400 V         4 000           product feature / for neutral conductors / upgradable/retrofittable / short-facult and vertoag profe         No           ground-fault monitoring version         without           product feature / for neutral conductors / upgradable/retrofittable / short-facult feature / for neutral conductors / upgradable/retrofittable / short-facult feature / for neutral conductors / upgrad	product brand name	SENTRON
design of the product     System protection       design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigerater (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 / High-Intensity- Discharge circuit breaker (HID Type)     No       design of the load switch / according to UL 489 / Network     No       circuit breaker (HID Type)     No       design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (HID Type)     No       operating voltage / at AC / rated value     690 V       operating voltage / at AC / rated value     690 V       power loss [W] / maximum     58 W       operating state / 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 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	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 / High-Intensity- Discharge circuit breaker (HD Type)     No       design of the load switch / according to UL 489 / High-Intensity- Discharge circuit breaker (HD Type)     No       design of the load switch / according to UL 489 / Switching Duty drout breaker (SWD Type)     No       design of the load switch / according to UL 489 / Switching Duty drout breaker (SWD Type)     No       design of the load switch / according to UL 489 / Switching Duty drout breaker (SWD Type)     No       design of the load switch / according to UL 489 / Switching Duty drout breaker (SWD Type)     No       design of the load switch / according to UL 489 / Switching Duty drout breaker (SWD Type)     No       design of the load switch / according to UL 489 / Switching Duty drout breaker (SWD Type)     No       constant to child al data     General tochnical data       operating voltage / at AC / rated value of the current / at AC / in hot operating state / per pole     19.33 W       power loss [W] / for rated value of the current / 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 ABO V     8 000       electrical endurance (operating cycles) / at ABO V     8 000       ground-fault monitoring version     without       product function	product designation / according to UL file	MFAM
Conditioning, and Refrigeration circuit breaker (HACR Type)       No         Discharge circuit breaker (HID Type)       No         design of the load switch / according to UL 489 / High-Intensity- circuit breaker (HID Type)       No         design of the load switch / according to UL 489 / Switching Duty circuit breaker (HID Type)       No         design of the overcurrent release       TM210         protection function of the overcurrent release       LI         number of poles       3         Contrait to chnical data       690 V         power loss [W] / naximum       58 W         power loss [W] / for rated value of the current / at AC / in hot operating state / per pole       19.33 W         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 680 V       4.000         product flasture / for neutral conductors / upgradable/retrofittable       No         / stocording to flu	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         Ceneral technical 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       19.33 W         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 AC0 V       8 000         electrical endurance (operating cycles) / at AC0 V       8 000         electrical endurance (operating cycles) / at AC0 V       8 000         electrical endurance (operating cycles) / at AC0 V       8 000         ground-fault monitoring version       without         product fueature / for neutral conductors / upgradable/retrofittable       No         / stot function       No         • other measument function       No         • other measument function       2 kg <t< td=""><td>0 0,</td><td>Yes</td></t<>	0 0,	Yes
circuit breaker (SWD Type)       TM2 10         design of the overcurrent release       Ll         number of poles       3         coperating voltage / at AC / rated value       690 V         power loss [W] / maximum       58 W         power loss [W] / maximum       58 W         power loss [W] / maximum       58 W         power loss [W] / for rated value of the current / at AC / in hot operating state / per pole       19.33 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         / stot-circuit and overload proof       ground-fault monitoring version         without       product function       No         other measurement functio		No
protection function of the overcurrent release       L1         number of poles       3         General technical data       690 V         operating voltage / at AC / rated value       690 V         power loss [W] / maximum       58 W         power loss [W] / for rated value of the current / at AC / in hot       19.33 W         operating state / 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 680 V       4 000         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 AC-1 / at 680 V       4 000         product feature / for neutral conductors / upgradable/retrofittable       //         / short-circuit and overload proof       without         ground-fault monitoring version       without         product function       No         • other measurement function       No         • other measurement function       No         • other measurement function       No         • at 40 °C       250 A         • at 55 °C	0 0 ,	No
number of poles       3         General technical data       690 V         power loss [W] / maximum       68 W         power loss [W] / for rated value of the current / at AC / in hot operating state / per pole       93.3 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       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       250 A         • at 45 °C       250 A         • at 50 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 A	design of the overcurrent release	TM210
General technical data         operating voltage / at AC / rated value       690 V         power loss [W] / for rated value of the current / at AC / in hot       58 W         operating state / per pole       19.33 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 V       8 000         electrical endurance (operating cycles) / at ABO V       4 000         electrical endurance (operating cycles) / at AO V       8 000         electrical endurance (operating cycles) / at AO V       8 000         electrical endurance (operating cycles) / at ABO V       8 000         electrical endurance (operating cycles) / at AO V       8 000         ground-fault monitoring version       without         product function       No         • communication function       No         • other measurement function       No         Net Weight       2 kg         Current       250 A         • at 40 °C       250 A         • at 45 °C       250 A         • at 55 °C       250 A         • at 55 °C       250 A	protection function of the overcurrent release	LI
operating voltage / at AC / rated value         690 V           power loss [W] / maximum         58 W           power loss [W] / for rated value of the current / at AC / in hot operating state / per pole         19.33 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 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         eat 40 °C           • at 40 °C         250 A           • at 40 °C         250 A           • at 50 °C         250 A           • at 50 °C         250 A           • at 50 °	number of poles	3
power loss [W] / maximum       58 W         power loss [W] / for rated value of the current / at AC / in hot operating state / per pole       19.33 W         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 AC0 V       8 000         electrical endurance (operating cycles) / at 600 V       4 000         product feature / for neutral conductors / upgradable/retrofittable / short-ircuit and overload proof       No         ground-fault monitoring version       without         product function       No         • other measurement function       No         Net Weight       2 kg         Current       250 A         • at 40 °C       250 A         • at 40 °C       250 A         • at 45 °C       250 A         • at 45 °C       250 A         • at 55 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 A	General technical data	
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole19.33 Wmechanical service life (operating cycles) / typical20 000electrical endurance (operating cycles) / at AC-1 / at 380/415 V8 000electrical endurance (operating cycles) / at AC-1 / at 690 V4 000electrical endurance (operating cycles) / at 400 V8 000electrical endurance (operating cycles) / at 400 V4 000product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proofNoground-fault monitoring versionwithoutproduct functionNo• other measurement functionNo• other measurement functionNonerking / according to UL 489 / 100%-rated breakerNooperational current250 A• at 40 °C250 A• at 45 °C250 A• at 55 °C241 A• at 60 °C233 A• at 65 °C225 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 480 V8 000electrical endurance (operating cycles) / at 600 V4 000product feature / for neutral conductors / upgradable/retrofittable / shot-circuit and overload proofNoground-fault monitoring versionwithoutproduct functionNo• communication functionNo• other measurement functionNoNet Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breakerNooperational current250 A• at 40 °C250 A• at 50 °C250 A• at 55 °C241 A• at 60 °C233 A• at 65 °C225 A	power loss [W] / maximum	58 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         • other measurement function       No         • other measurement function       No         operational current       2 kg         • at 40 °C       250 A         • at 40 °C       250 A         • at 40 °C       250 A         • at 50 °C       250 A         • at 55 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 A		19.33 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         • other measurement function       No         Outrent       2 kg         Current       No         • at 40 °C       250 A         • at 40 °C       250 A         • at 45 °C       250 A         • at 55 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 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       2 kg         Current       No         marking / according to UL 489 / 100%-rated breaker       No         operational current       250 A         • at 40 °C       250 A         • at 45 °C       250 A         • at 55 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 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     No       ground-fault monitoring version     without       product function     other measurement function       • other measurement function     No       Net Weight     2 kg       Current     marking / according to UL 489 / 100%-rated breaker     No       • at 40 °C     250 A       • at 45 °C     250 A       • at 55 °C     241 A       • at 65 °C     225 A	electrical endurance (operating cycles) / at 480 V	8 000
/ short-circuit and overload proof       Item of the second proof         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       250 A         • at 40 °C       250 A         • at 50 °C       250 A         • at 55 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 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       eat 40 °C       250 A         • at 45 °C       250 A       250 A         • at 50 °C       250 A       250 A         • at 60 °C       233 A       233 A         • at 65 °C       225 A       225 A		No
• communication functionNo• other measurement functionNoNet Weight2 kgCurrentCurrentmarking / according to UL 489 / 100%-rated breakerNooperational current250 A• at 40 °C250 A• at 55 °C250 A• at 55 °C250 A• at 60 °C233 A• at 65 °C225 A	ground-fault monitoring version	without
• other measurement functionNoNet Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breakerNooperational current• at 40 °C250 A• at 45 °C250 A• at 55 °C250 A• at 55 °C250 A• at 60 °C233 A• at 65 °C225 A	product function	
Net Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breakerNooperational current• at 40 °C250 A• at 45 °C250 A• at 55 °C250 A• at 55 °C250 A• at 60 °C233 A• at 65 °C225 A	<ul> <li>communication function</li> </ul>	No
Current       No         marking / according to UL 489 / 100%-rated breaker       No         operational current       250 A         • at 40 °C       250 A         • at 45 °C       250 A         • at 50 °C       250 A         • at 55 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 A	<ul> <li>other measurement function</li> </ul>	No
marking / according to UL 489 / 100%-rated breakerNooperational current250 A• at 40 °C250 A• at 45 °C250 A• at 50 °C250 A• at 55 °C241 A• at 60 °C233 A• at 65 °C225 A	Net Weight	2 kg
operational current         250 A           • at 40 °C         250 A           • at 45 °C         250 A           • at 55 °C         250 A           • at 55 °C         250 A           • at 60 °C         233 A           • at 65 °C         225 A	Current	
• at 40 °C       250 A         • at 45 °C       250 A         • at 50 °C       250 A         • at 55 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 A	marking / according to UL 489 / 100%-rated breaker	No
• at 45 °C       250 A         • at 50 °C       250 A         • at 55 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 A	operational current	
• at 50 °C       250 A         • at 55 °C       241 A         • at 60 °C       233 A         • at 65 °C       225 A	• at 40 °C	250 A
• at 55 °C 241 A • at 60 °C 233 A • at 65 °C 225 A	● at 45 °C	250 A
• at 60 °C 233 A • at 65 °C 225 A	● at 50 °C	250 A
• at 65 °C 225 A	● at 55 °C	241 A
	● at 60 °C	233 A
• at 70 °C 216 A	● at 65 °C	225 A
	• at 70 °C	216 A

Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	M
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	250 A
maximum     adjustable response value delay time (tr) / for L-tripping / with I2t     characteristic	250 A
• minimum	1 s
• maximum	1s
adjustable response value setting current (li) / for I-tripping	15
minimum	2 500 A
• maximum	2 500 A
adjustable absolute value setting current (InN) / for N-tripping	
• minimum	0 A
• maximum	0 A
adjustable current response value current / of the current-	250 250 A
dependent overload release	
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	
arrangement of electrical connectors / for main current circuit	Without connection Without
type of electrical connection / for main current circuit	Without
Auxiliary circuit	0
number of CO contacts / for auxiliary contacts	0
Accessories	Vee
product extension / optional / motor drive	Yes
Environmental conditions	
protection class IP / on the front	IP40
ambient temperature	-25 °C
<ul> <li>during operation / minimum</li> <li>during operation / maximum</li> </ul>	-25 C 70 °C
during operation / maximum     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	

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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=3VA5225-5ED31-1AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VA5225-5ED31-1AA0

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

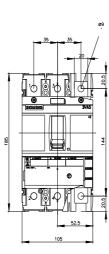
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA5225-5ED31-1AA0

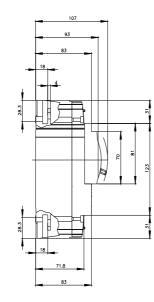
CAx-Online-Generator

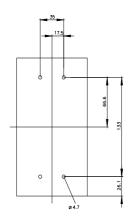
http://www.siemens.com/cax

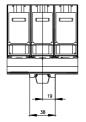
Tender specifications

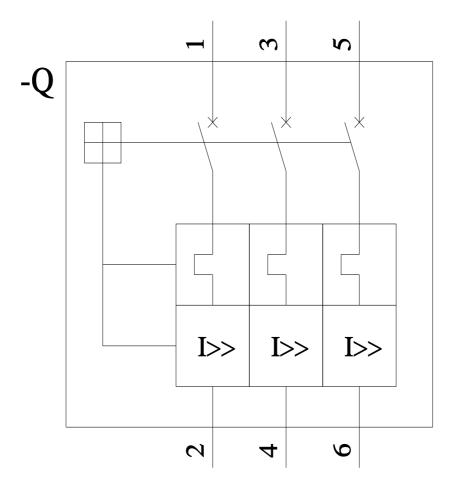
http://www.siemens.com/specifications

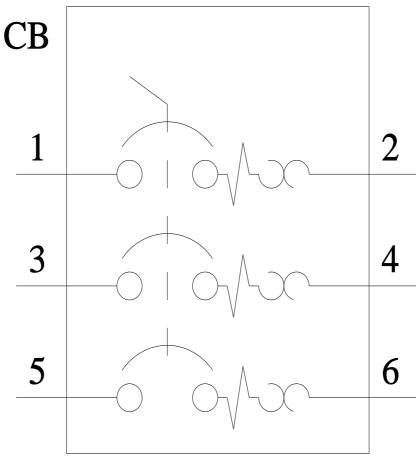












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