## SIEMENS

## Data sheet

## 3VA5212-5EC31-1AA0



circuit breaker 3VA5 UL frame 250 breaking capacity class M 35kA @ 480 V 3-pole, line protection TM230, FTAM, In=125A overload protection Ir=125A fixed short-circuit protection Ii=5...10 x In UL 489 SB (naval), 50° C without connection

product brand name         SENTRON           product designation / according to UL file         Molded-case circuit breaker (MAR)           design of the product         System protection           design of the load switch / according to UL 489 / Heating, Ar         Yes           Conditioning, and Refigeration circuit breaker (HACR Type)         No           design of the load switch / according to UL 489 / High-Intensity-         No           Deckarge circuit breaker (HO) Type)         No           design of the load switch / according to UL 489 / Switching Duty         No           dircuit breaker (HO) Type)         No           design of the load switch / according to UL 489 / Switching Duty         No           ricult breaker (HO) Type)         No           design of the load switch / according to UL 489 / Nothing Duty         No           ricult breaker (HO) Type)         No           design of the load switch / according to UL 489 / Nothing Duty         No           ordination of the overcurrent release         TM230           protection function of the overcurrent release         Li           number of poles         3           design of the load switch / according to UL 489 / Nothing Duty         753 W           power loss [W] / maximum         23 W           power loss [W] / morated value of the current / at AC / In hot	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         Yes           Discharge circuit breaker (HIACR Type)         No           design of the load switch / according to UL 489 / High-Intensity         No           Discharge circuit breaker (HIT Type)         No           design of the load switch / according to UL 489 / Switching Duty circuit Dreaker (SWD Type)         No           design of the overcurrent release         TM230           protection function of the overcurrent release         Ll           number of poils         3           Central technical data         690 V           power loss [W] / maximum         23 W           power loss [W] / for rated value of the current / at AC / in hot operating state / per pole         7.55 W           mechanical service life (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           other mea	product brand name	SENTRON
design of the product       System protection         design of the load switch / according to UL 489 / Heating, Air       Yes         Conditioning, and Refrigerative (HACR Type)       Yes         design of the load switch / according to UL 489 / High-Intensity-       No         Discharge circuit breaker (HIOT Type)       No         design of the load switch / according to UL 489 / High-Intensity-       No         design of the load switch / according to UL 489 / Switching Duty       No         circuit breaker (HIOT Type)       No         design of the load switch / according to UL 489 / Network       No         circuit breaker (HIOT Type)       No         design of the load switch / according to UL 489 / Network       No         operating voltage / at AC / rated value       690 V         power loss [W] / maximum       23 W         operating voltage / at AC / rated value of the current / at AC / in hot       7.53 W         operating state / per pole       7.53 W         mechanical service life (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         groud-faultrancinteran	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       operating voltage / at AC / rated value     690 V       operating to Charled ata     690 V       operating state / per pole     690 V       mechanical service life (operating cycles) / ta AC / 1 at AC / in hot operating state / per pole     7.53 W       electrical endurance (operating cycles) / at AC / 1 at 480 V     8 000       electrical endurance (operating cycles) / at AO / 1 at 380/415 V     8 000       electrical endurance (operating cycles) / at AO V     8 000       ground-fault monitoring version     without <t< td=""><td>product designation / according to UL file</td><td>MFAM</td></t<>	product designation / according to UL file	MFAM
Conditioning, and Refrigeration circuit breaker (HACR Type)         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       690 V         contrait circuit breaker (WD Type)       23 W         operating voltage / at AC / rated value       690 V         power toss [W] / maximum       23 W         operating state / per pole       7.53 W         mechanical service IIfe (operating cycles) / typical       0000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8.000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8.000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8.000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8.000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8.000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8.000         ground-fault monitoring version       without         product feature / for neutral conductors / upgradable/retrofittable       No	design of the product	System protection
Discharge circuit breaker (HID Type)       No         design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type)       No         design of the overcurrent release       TM230         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       7.53 W         mechanical service life (operating cycles) / typical       20 000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8 000         electrical endurance (operating cycles) / at AC-1 / at 690 V       4 000         electrical endurance (operating cycles) / at AC0 V       8 000         electrical endurance (operating cycles) / at AC0 V       8 000         electrical endurance (operating cycles) / at A00 V       8 000         electrical endurance (operating cycles) / at A00 V       8 000         ground-fault monitoring version       without         product fuection       No         / stotrocit and current       2 kg         Current       2 kg         marking / according to UL 489 / 100%-rated breaker       No         operational current       1		Yes
circuit breaker (SWD Type)       TM230         design of the overcurrent release       Ll         number of poles       3         coperating voltage / at AC / rated value       690 V         operating voltage / at AC / rated value       690 V         power loss [W] / maximum       23 W         power loss [W] / maximum       23 W         power loss [W] / for rated value of the current / at AC / in hot operating state / per pole       7.53 W         mechanical service life (operating cycles) / typical       20 000         electrical endurance (operating cycles) / typical       8 000         electrical endurance (operating cycles) / typical       8 000         electrical endurance (operating cycles) / typical       No         ground-fault monitoring version       without         product fauture / for neutral conductors / upgradable/retrofittable       No         other measurement function       No         • other measurement function       No         • other measurement function       No <tr< td=""><td>5 5 5 ,</td><td>No</td></tr<>	5 5 5 ,	No
protection function of the overcurrent release       Ll         number of poles       3         General technical data       690 V         operating voltage / at AC / rated value       690 V         power loss [W] / maximum       23 W         power loss [W] / for rated value of the current / at AC / in hot       7.53 W         operating state / per pole       0000         mechanical service life (operating cycles) / typical       20 000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8 000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8 000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8 000         electrical endurance (operating cycles) / at AC-1 / at 690 V       4 000         product feature / for neutral conductors / upgradable/retrofittable       No         / short-circuit and overload proof       without         ground-fault monitoring version       without         product function       No         • other measurement function       No         • other measurement function       No         • other measurement function       No         • at 40 °C       125 A         • at 45 °C       121 A         • at 55 °C       102 A <td></td> <td>No</td>		No
number of poles       3         General technical data       690 V         power loss [W] / maximum       23 W         power loss [W] / for rated value of the current / at AC / in hot operaring state / per pole       7.53 W         mechanical service life (operating cycles) / throat       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 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 800 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       125 A         • at 40 °C       125 A         • at 40 °C       116 A        • at 50 °C       116	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       7.53 W         operating state / per pole       7.53 W         mechanical service life (operating cycles) / typical       20 000         electrical endurance (operating cycles) / at AC-1 / at 380/415 V       8 000         electrical endurance (operating cycles) / at AC-1 / at 690 V       4 000         electrical endurance (operating cycles) / at AC-1 / at 690 V       4 000         electrical endurance (operating cycles) / at 480 V       8 000         electrical endurance (operating cycles) / at 600 V       4 000         product feature / for neutral conductors / upgradable/retrofittable       No         / stort-circuit and overload proof       without         ground-fault monitoring version       without         product function       No         • other measurement function       No         Net Weight       2 kg         Current       125 A         • at 40 °C       125 A         • at 45 °C       121 A         • at 55 °C       108 A         • at 65 °C       103 A	protection function of the overcurrent release	LI
operating voltage / at AC / rated value       690 V         power loss [W] / maximum       23 W         power loss [W] / for rated value of the current / at AC / in hot operating state / per pole       7.53 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 AC0 V       8 000         electrical endurance (operating cycles) / at AC0 V       8 000         electrical endurance (operating cycles) / at 600 V       4 000         product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof       No         ground-fault monitoring version       without         product function       No         • communication function       No         • other measurement function       No         Net Weight       2 kg         Current       125 A         • at 40 °C       125 A         • at 40 °C       121 A         • at 40 °C       121 A         • at 50 °C       116 A         • at 60 °C       108 A	number of poles	3
power loss [W] / maximum       23 W         power loss [W] / for rated value of the current / at AC / in hot       7.53 W         operating state / per pole	General technical data	
power loss [W] / for rated value of the current / at AC / in hot       7.53 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 AC 0 V       8 000         electrical endurance (operating cycles) / at A00 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       125 A         • at 40 °C       125 A         • at 45 °C       121 A         • at 45 °C       121 A         • at 55 °C       112 A         • at 60 °C       108 A         • at 65 °C       103 A	operating voltage / at AC / rated value	690 V
operating state / per polemechanical service life (operating cycles) / typical20 000electrical endurance (operating cycles) / at AC-1 / at 380/415 V8 000electrical endurance (operating cycles) / at 690 V4 000electrical endurance (operating cycles) / at 690 V8 000electrical endurance (operating cycles) / at 800 V8 000electrical endurance (operating cycles) / at 800 V4 000product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proofNoground-fault monitoring versionwithoutproduct functionNo• other measurement functionNo• other measurement functionNoNet Weight2 kgCurrentImarking / according to UL 489 / 100%-rated breaker• at 40 °C125 A• at 40 °C121 A• at 50 °C116 A• at 60 °C108 A• at 60 °C108 A• at 65 °C103 A	power loss [W] / maximum	23 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-1 / at 690 V       8 000         electrical endurance (operating cycles) / at AC-1 / at 690 V       8 000         electrical endurance (operating cycles) / at AC-1 / at 690 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         / 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         operational current       125 A         • at 40 °C       125 A         • at 45 °C       121 A         • at 50 °C       116 A         • at 55 °C       108 A         • at 60 °C       103 A		7.53 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       Imarking / according to UL 489 / 100%-rated breaker         operational current       125 A         • at 40 °C       125 A         • at 45 °C       121 A         • at 55 °C       116 A         • at 55 °C       108 A         • at 65 °C       103 A	mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at 480 V8 000electrical endurance (operating cycles) / at 600 V4 000product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proofNoground-fault monitoring versionwithoutproduct functionNo• communication functionNo• other measurement functionNoNet Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breaker• at 40 °C125 A• at 40 °C125 A• at 45 °C116 A• at 55 °C112 A• at 65 °C103 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       125 A         • at 40 °C       125 A         • at 45 °C       121 A         • at 55 °C       116 A         • at 65 °C       108 A         • at 65 °C       103 A	electrical endurance (operating cycles) / at AC-1 / at 690 V	4 000
product feature / for neutral conductors / upgradable/retrofittable       No         / short-circuit and overload proof       without         ground-fault monitoring version       without         product function       No         • communication function       No         • other measurement function       No         Net Weight       2 kg         Current       marking / according to UL 489 / 100%-rated breaker       No         operational current       125 A         • at 40 °C       121 A         • at 45 °C       121 A         • at 55 °C       112 A         • at 65 °C       103 A	electrical endurance (operating cycles) / at 480 V	8 000
/ short-circuit and overload proof       without         ground-fault monitoring version       without         product function       No         • communication function       No         • other measurement function       No         Net Weight       2 kg         Current       No         marking / according to UL 489 / 100%-rated breaker       No         operational current       125 A         • at 40 °C       121 A         • at 50 °C       116 A         • at 55 °C       112 A         • at 60 °C       108 A         • at 65 °C       103 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       125 A         • at 40 °C       125 A         • at 45 °C       121 A         • at 50 °C       116 A         • at 55 °C       112 A         • at 60 °C       108 A         • at 65 °C       103 A		No
• communication functionNo• other measurement functionNoNet Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breakeroperational currentNo• at 40 °C125 A• at 40 °C121 A• at 55 °C116 A• at 55 °C112 A• at 60 °C108 A• at 65 °C103 A	ground-fault monitoring version	without
• other measurement functionNoNet Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breakerNooperational currentNo• at 40 °C125 A• at 45 °C121 A• at 55 °C116 A• at 55 °C112 A• at 60 °C108 A• at 65 °C103 A	product function	
Net Weight2 kgCurrentmarking / according to UL 489 / 100%-rated breakerNooperational currentNo• at 40 °C125 A• at 45 °C121 A• at 55 °C116 A• at 55 °C112 A• at 60 °C108 A• at 65 °C103 A	<ul> <li>communication function</li> </ul>	No
Current       No         marking / according to UL 489 / 100%-rated breaker       No         operational current       125 A         • at 40 °C       125 A         • at 45 °C       121 A         • at 50 °C       116 A         • at 55 °C       112 A         • at 60 °C       108 A         • at 65 °C       103 A	<ul> <li>other measurement function</li> </ul>	No
marking / according to UL 489 / 100%-rated breakerNooperational current125 A• at 40 °C125 A• at 45 °C121 A• at 50 °C116 A• at 55 °C112 A• at 60 °C108 A• at 65 °C103 A	Net Weight	2 kg
operational current         125 A           • at 40 °C         125 A           • at 45 °C         121 A           • at 50 °C         116 A           • at 55 °C         112 A           • at 60 °C         108 A           • at 65 °C         103 A	Current	
• at 40 °C       125 A         • at 45 °C       121 A         • at 50 °C       116 A         • at 55 °C       112 A         • at 60 °C       108 A         • at 65 °C       103 A	marking / according to UL 489 / 100%-rated breaker	No
• at 45 °C       121 A         • at 50 °C       116 A         • at 55 °C       112 A         • at 60 °C       108 A         • at 65 °C       103 A	operational current	
• at 50 °C       116 A         • at 55 °C       112 A         • at 60 °C       108 A         • at 65 °C       103 A	• at 40 °C	125 A
• at 55 °C       112 A         • at 60 °C       108 A         • at 65 °C       103 A	● at 45 °C	121 A
• at 60 °C 108 A • at 65 °C 103 A	● at 50 °C	116 A
• at 65 °C 103 A	• at 55 °C	112 A
	• at 60 °C	108 A
• at 70 °C 99 A	● at 65 °C	103 A
	• at 70 °C	99 A

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
djustable parameters	
adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic	
• minimum	125 A
maximum adjustable response value delay time (tr) / for L-tripping / with I2t	125 A
characteristic	1.
• minimum	1s
maximum	1s
adjustable response value setting current (li) / for I-tripping	625 A
● minimum ● maximum	625 A 1 250 A
maximum     adjustable absolute value setting current (InN) / for N-tripping	
minimum	0 A
• maximum	0 A
adjustable current response value current / of the current-	125 125 A
dependent overload release	120 120 A
product function / grounding protection	No
/lechanical 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
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	
<ul> <li>during operation / minimum</li> </ul>	-25 °C
<ul> <li>during operation / maximum</li> </ul>	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	

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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=3VA5212-5EC31-1AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VA5212-5EC31-1AA0

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

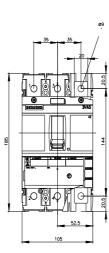
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA5212-5EC31-1AA0

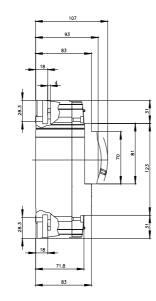
CAx-Online-Generator

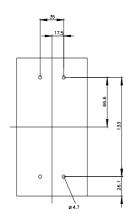
http://www.siemens.com/cax

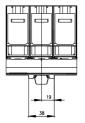
Tender specifications

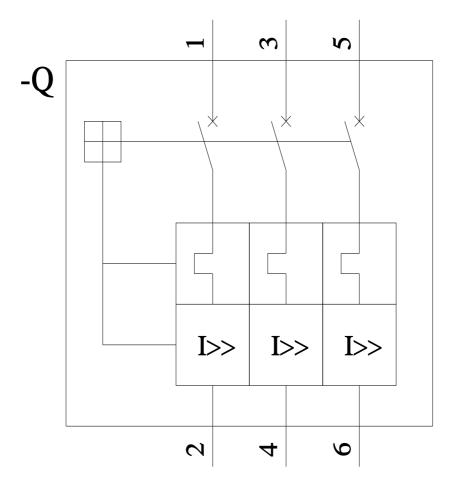
http://www.siemens.com/specifications

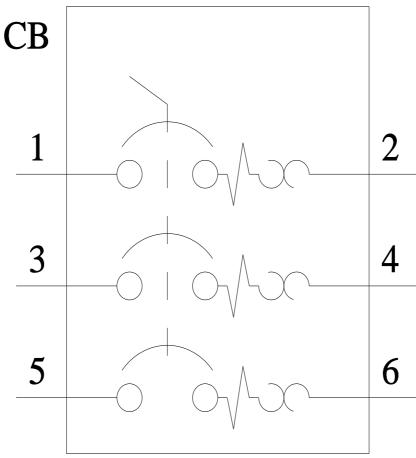












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