Data sheet 3RT2018-1AK61-0UA0



contactor, NEMA version, 5 HP, 460 / 575 V, 3-pole, 110 V AC, 50 Hz / 120 V, 60 Hz, auxiliary contacts: 1 NO, screw terminal, size: S00

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
product extension	
 function module for communication 	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	3 W
 at AC in hot operating state per pole 	1 W
 without load current share typical 	1.7 W
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
 of auxiliary circuit with degree of pollution 3 rated value 	690 V
surge voltage resistance	
of main circuit rated value	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	7,3g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (operating cycles)	
of contactor typical	30 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
during operation	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
Main circuit	

3
690 V
690 V
22 A
22 A
20 A
16 A
12.4 A
8.9 A
16 A
12.4 A
8.9 A
11.5 A
19.4 A
13.2 A
9.6 A
9.6 A
9.6 A
8.9 A
6.6 A
6.4 A
6.4 A
6.4 A
4 mm²
5.5 A
4.4 A
7.7 //
20 A
20 A
2.1 A
2.1 A 0.8 A
2.1 A 0.8 A 0.6 A
2.1 A 0.8 A
2.1 A 0.8 A 0.6 A 0.6 A
2.1 A 0.8 A 0.6 A 0.6 A
2.1 A 0.8 A 0.6 A 0.6 A 20 A
2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A
2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A
2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A
2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A
2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A
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2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A
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2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A

— at 24 V rated value	20 A
— at 60 V rated value	0.5 A
— at 110 V rated value	0.15 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 110 V rated value	0.35 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
	0.2 A
— at 600 V rated value	0.2 A
operating power	7.5 (24)
at AC-2 at 400 V rated value	7.5 kW
• at AC-3	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	7.5 kW
• at AC-3e	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	7.5 kW
operating power for approx. 200000 operating cycles at AC-	
4	
 at 400 V rated value 	2.5 kW
at 690 V rated value	3.5 kW
operating apparent power at AC-6a	
 up to 230 V for current peak value n=20 rated value 	3.8 kVA
 up to 400 V for current peak value n=20 rated value 	6.6 kVA
 up to 500 V for current peak value n=20 rated value 	8.3 kVA
 up to 690 V for current peak value n=20 rated value 	10.6 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	2.5 kVA
 up to 400 V for current peak value n=30 rated value 	4.4 kVA
 up to 500 V for current peak value n=30 rated value 	5.5 kVA
• up to 690 V for current peak value n=30 rated value	7.6 kVA
short-time withstand current in cold operating state up to	
40 °C	
 limited to 1 s switching at zero current maximum 	300 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	169 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	128 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	92 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	74 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	10 000 1/h
operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
at AC-3e maximum	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	200 1111
	AC
type of voltage of the control supply voltage	AC
control supply voltage at AC	440.V
at 50 Hz rated value	110 V
at 60 Hz rated value	120 V
operating range factor control supply voltage rated value of magnet coil at AC	

● at 50 Hz	0.8 1.1
● at 60 Hz	0.8 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	36 VA
● at 60 Hz	36 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
● at 60 Hz	0.8
apparent holding power of magnet coil at AC	
• at 50 Hz	5.9 VA
● at 60 Hz	5.9 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.24
● at 60 Hz	0.24
closing delay	
• at AC	9 35 ms
opening delay	
• at AC	4 15 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
at 230 V rated value	10 A
at 400 V rated value	3 A
• at 500 V rated value	2 A
at 690 V rated value	1 A
operational current at DC-12	
at 24 V rated value	10 A
• at 48 V rated value	6 A
• at 60 V rated value	6 A
at 110 V rated value	3 A
at 125 V rated value	2 A
at 220 V rated value	1 A
at 600 V rated value	0.15 A
operational current at DC-13	
at 24 V rated value	10 A
• at 48 V rated value	2 A
• at 60 V rated value	2 A
• at 110 V rated value	1 A
• at 125 V rated value	0.9 A
• at 220 V rated value	0.3 A
• at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	14 A
• at 600 V rated value	11 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	1 hp
— at 230 V rated value	2 hp
for 3-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	5 hp
— at 575/600 V rated value	5 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	

• for short-circuit protection of the main circuit — with type of assignment 2 required — side-by-side mounting — side-by-side mounting — with ado-by-side mounting — with ado-by-side mounting — with ado-by-side mounting — with ado-by-side mounting — of overals — overals — of overals — overals — of overals — overals — of overals —		
with type of assignment 2 required 4 or the roth-cacult protection of the auxiliary switch required 1 or standard microstropy dimensions **Intelligation incontropy dimens	design of the fuse link	
with type of assignment 2 required concentration of the auxillary switch and a seaso-sea mounting outsides; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2.2.6* on vertical mounting surface; can be tilted forward and assessment by **2	 for short-circuit protection of the main circuit 	
### Canabacticular protection of the auxiliary switch required microlarisation forming (companies)	 — with type of coordination 1 required 	
Marchael and position Marc	 — with type of assignment 2 required 	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)
mounting position	for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Seakewing method	Installation/ mounting/ dimensions	
Meight	mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
Meight width	fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
width 45 mm depth 73 mm required spacing ************************************	side-by-side mounting	Yes
Page	height	58 mm
Pequired spacing Percentage	width	45 mm
• with side-by-side mounting	depth	73 mm
forwards upwards forgrounded parts upwards upwards upwards upwards upwards upwards downwards upwards downwards upwards upw	required spacing	
upwards	with side-by-side mounting	
downwards at the side 0 mm at the side 10 mm forwards 10 mm downwards 10 mm downwards 10 mm forwards 10 mm forward	— forwards	10 mm
• for grounded parts - forwards - upwards - at the side - downwards • for live parts - forwards - pywards - pywards - pywards - pywards - downwards - downwards - downwards - downwards - at the side - downwards - pywards - downwards - the side - downwards - at the side - downwards - to mm - downwards - other side - downwards - the side - downwards - to mm - formain cortections/ Torminals **Torminals** **Tope detectrical connection • for main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • sorid - solid or stranded • finely stranded with core end processing connectable conductor cross-section for main contacts • solid • sfranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing • for AWG cables for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • for main contacts • for auxiliary contacts • for aux	— upwards	10 mm
• for grounded parts	— downwards	10 mm
forwards	— at the side	0 mm
- upwards	 for grounded parts 	
- at the side	— forwards	10 mm
of rolive parts of rowards one ownwards	— upwards	10 mm
• for live parts — forwards — upwards — downwards — downwards — at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • so rew-type terminals • of magnet coil type of connectable conductor cross-sections for main contacts • solid • solid or stranded • finely stranded with core end processing • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for AWG cables for auxiliary contacts • for faw contacts • for f	— at the side	6 mm
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- upwards - downwards - downwards - at the side 6 mm Connections/ Torminals type of electrical connection • for main current circuit • at contactor for auxilliary and control circuit • at contactor for auxilliary contacts • of magnet coil type of connectable conductor cross-sections for main contacts • solid or stranded • finely stranded with core end processing • for auxillary contacts • solid or stranded • finely stranded with core end processing • for fauxillary contacts • for auxillary contacts • for auxillary contacts • for auxillary contacts • for auxillary contacts • for fauxillary contacts • for main contacts • for fauxillary contacts • for main contacts • for main contacts • for swith synthesia data product function • mirror contact according to IEC 60947-4-1 • Yes; with 3RH29 B10 value with high demand rate according to SN 31920 • 1000 000	• for live parts	
- downwards - at the side Connections/ Torminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections for main contacts • solid • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • for auxiliary conta	— forwards	10 mm
Connections/ Torninals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • solid • solid or stranded • solid or stranded • finely stranded with core end processing • finely stranded with core end processing • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • connectable conductor cross-sections • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for connectable conductor cross-sections • for auxiliary contacts - solid or stranded • finely stranded with core end processing • for connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stran	— upwards	10 mm
type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections for main contacts • solid • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • for auxiliary contacts • for auxiliary contacts • for AWG cables for auxiliary contacts • for AWG cables for auxiliary contacts • for main contacts • for auxiliary contacts • for miner contacts according to IEC 60947-4-1 • first, with 3RH29 suitability for use safety-related switching OFF Yes B10 value with high demand rate according to SN 31920 1 000 000	— downwards	10 mm
type of electrical connection • for main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections for main contacts • solid • solid or stranded • finely stranded with core end processing connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for main contacts • solid • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-sections • for auxiliary contacts - solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded • for auxiliary contacts - solid or stranded with core end processing • for AWG cables for auxiliary contacts 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) • for auxiliary contacts - solid or stranded • for auxiliary contacts 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (0.	— at the side	6 mm
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of magnet coil type of connectable conductor cross-sections for main contacts • solid	 for auxiliary and control circuit 	screw-type terminals
type of connectable conductor cross-sections for main contacts • solid • solid 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² • solid or stranded with core end processing connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross-section • for main contacts • for main contacts • for auxiliary contacts 20 12 • for auxiliary contacts 20 12 • for auxiliary contacts 20 12 • for auxiliary contacts product function • mirror contact according to IEC 60947-4-1 Yes; with 3RH29 suitability for use safety-related switching OFF Yes B10 value with high demand rate according to SN 31920 1 000 000	 at contactor for auxiliary contacts 	Screw-type terminals
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B10 value with high demand rate according to SN 31920 1 000 000		
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proportion of dangerous failures	proportion of dangerous failures	

 with low demand rate according to SN 31920 	40 %
 with high demand rate according to SN 31920 	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC 61508	20 a
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front

Certificates/ approvals

General Product Approval





Confirmation



<u>KC</u>



EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping





Confirmation









Marine / Shipping

other



Vibration and Shock

Railway

Environmental Confirmations

Environment

Curth or 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,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2018-1AK61-0UA0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2018-1AK61-0UA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-1AK61-0UA0

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

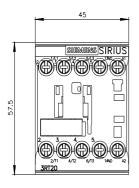
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2018-1AK61-0UA0&lang=en

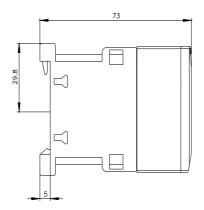
Characteristic: Tripping characteristics, I2t, Let-through current

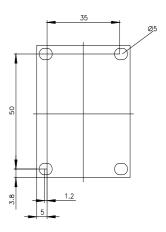
https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-1AK61-0UA0/char

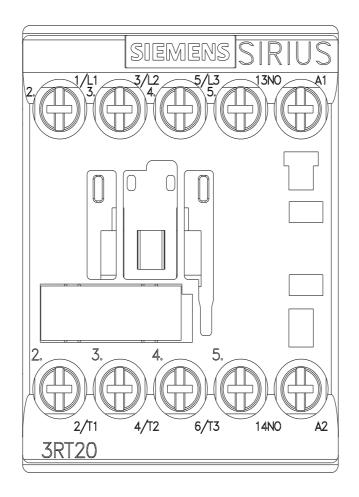
Further characteristics (e.g. electrical endurance, switching frequency)

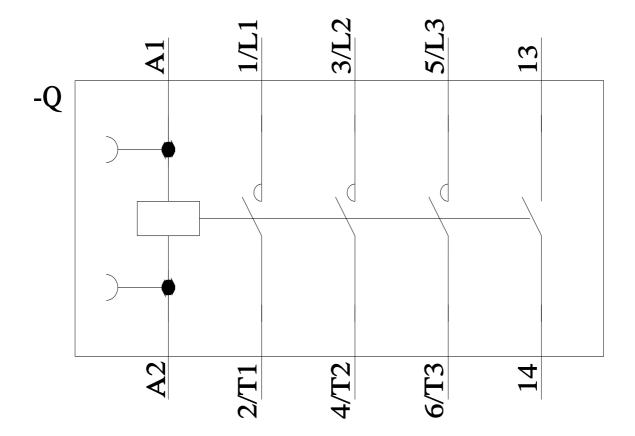
 $\underline{\text{http://www.automation.siemens.com/bilddb/index.aspx?view=Search\&mlfb=3RT2018-1AK61-0UA0\&objecttype=14\&gridview=view1}$











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