SIEMENS

Data sheet

3RT2446-1NP30



contactor AC-1, 140 A, 690 V / 40 °C, 3-pole, 175-280 V AC/DC, 50/60 Hz, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, main circuit: box terminal, control and auxiliary circuit: screw terminal

size of contactor S3 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 9.8 W • at AC in hot operating state per pole 9.8 W • of main circuit with degree of pollution 3 rated value 1.000 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 8 kV • of auxiliary circuit and value 6 kV stock resistance at rectangular impulse 6 kV • at AC 10.3g / 5 ms, 6.g / 10 ms • at AC 10.3g / 5 ms, 10.g / 10 ms • at AC 10.6 g / 5 ms, 43 / 10 ms • at AC 10.6 g / 5 ms, 6.3 g / 10 ms • at AC 10.6 g / 5 ms, 6.3 g / 10 ms • at AC 10.6 g / 5 ms, 6.3 g / 10 ms • at AC 10.6 g / 5 ms, 6.3 g / 10 ms • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 2000 m methent conditions 2000 m instalation alittude at height above sea level maximum	K0 K1	
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relative humidity at 55 °C according to IEC 60068-2-30 95 %	 during storage 	
maximum		
Main circuit		95 %
	Main circuit	

number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
type of voltage for main current circuit	AC
operational current	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	140 A
— up to 690 V at ambient temperature 55 °C	130 A
rated value	
— up to 690 V at ambient temperature 60 °C rated value	130 A
— up to 1000 V at ambient temperature 40 °C rated value	60 A
 up to 1000 V at ambient temperature 60 °C rated value at AC-3 	60 A
— at 400 V rated value	44 A
— at 690 V rated value	44 A
minimum cross-section in main circuit at maximum AC-1 rated value	50 mm ²
no-load switching frequency	
• at AC	1 000 1/h
● at DC	1 000 1/h
operating frequency at AC-1 maximum	650 1/h
Control circuit/ Control	
type of voltage	AC/DC
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
at 50 Hz rated value	175 280 V
at 60 Hz rated value	175 280 V
 control supply voltage at DC rated value 	175 280 V
operating range factor control supply voltage rated	175200 V
value of magnet coil at DC	
• initial value	0.8
• full-scale value	1.1
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
design of the surge suppressor	with varistor
inrush current peak	65 A
duration of inrush current peak	5 µs
locked-rotor current mean value locked-rotor current peak	0.44 A 1.2 A
duration of locked-rotor current	1.2 A 150 ms
holding current mean value	10 mA
apparent pick-up power of magnet coil at AC	
• at 50 Hz	202 VA
• at 60 Hz	202 VA
apparent holding power of magnet coil at AC	
• at 50 Hz	3.5 VA
• at 60 Hz	3.5 VA
closing power of magnet coil at DC	76 W
holding power of magnet coil at DC	1.8 W
closing delay	
• at AC	50 70 ms
• at DC	50 70 ms
opening delay	29 E7 mg
• at AC • at DC	38 57 ms 38 57 ms
• at DC arcing time	38 57 ms 10 20 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	

www.hanaf.NO.aanfa (f 100 100 f 1	
number of NC contacts for auxiliary contacts	1
attachable	2
• instantaneous contact	1
number of NO contacts for auxiliary contacts	1
attachable	2
instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
at 230 V rated value	6 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-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
design of the miniature circuit breaker for short-circuit	gG: 10 A (230 V, 400 A)
protection of the auxiliary switch required	
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
Short-circuit protection	
product function short circuit protection	No
design of the fuse link	
 for short-circuit protection of the main circuit 	
 — with type of coordination 1 required 	gG: 250 A (690 V,100 kA)
 — with type of assignment 2 required 	gR: 250 A (690 V, 100 kA)
 for short-circuit protection of the auxiliary switch 	gG: 10 A (500 V, 1 kA)
required	
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted
	forward and backward by +/- 22.5° on vertical mounting surface
mounting position fastening method	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN
fastening method	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
fastening methodside-by-side mounting	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes
 fastening method side-by-side mounting height 	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm
 fastening method side-by-side mounting height width 	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm
fastening method • side-by-side mounting height width depth	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm
fastening method • side-by-side mounting height width depth required spacing	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — downwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — a the side • for grounded parts	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — forwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — at the side • for grounded parts — forwards — upwards — upwards — at upwards — at upwards — upwards — upwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — at the side • at the side	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — a the side • for grounded parts — forwards — upwards — at the side • for wards — upwards — at the side — downwards — upwards — upwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — downwards — at the side • for grounded parts — forwards — oforwards — at the side • of or grounded parts — forwards — upwards — other side — other side	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — downwards — at the side • for grounded parts — forwards — at the side — forwards — at the side — odownwards — at the side — for wards — at the side — for live parts — forwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm 10 mm 10 mm 20 mm 20 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — downwards — a the side • for grounded parts — forwards — upwards — at the side — downwards — at the side — forwards — at the side — forwards — at the side — for live parts — forwards — upwards — upwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 20 mm 10 mm 20 mm 10 mm 20 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — downwards — a the side • for grounded parts — forwards — at the side — downwards — at the side — downwards — at the side — for live parts — forwards — forwards — downwards • for live parts — forwards — forwards — downwards • for live parts — forwards — downwards • for live parts — forwards — downwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 20 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — downwards — a the side • for grounded parts — forwards — at the side — downwards — at the side — downwards • for live parts — forwards • for live parts — forwards — upwards — at the side — downwards • for live parts — forwards — upwards — at the side — downwards — at the side	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 20 mm 10 mm 20 mm 10 mm 20 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — downwards — a the side • for grounded parts — forwards — at the side — downwards — at the side — downwards — at the side — for live parts — forwards — forwards — downwards • for live parts — forwards — forwards — downwards • for live parts — forwards — downwards • for live parts — forwards — downwards	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 20 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — a the side • for grounded parts — forwards — at the side — downwards — at the side — downwards • for live parts — forwards = forwards — upwards — at the side — downwards = for live parts — forwards — upwards — at the side — downwards — at the side — the side — the side — at the side — the side	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 20 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — downwards — a the side • for grounded parts — forwards — at the side — downwards — at the side — downwards • for live parts — forwards — forwards — at the side — downwards — at the side — downwards — at the side — downwards — at the side — downwards — at the side	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 20 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — a the side • for grounded parts — forwards — at the side — downwards — at the side — downwards • for live parts — forwards = forwards — upwards — at the side — downwards = for live parts — forwards — upwards — at the side — downwards — at the side — the side — the side — at the side — the side	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 20 mm 20 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — oforwards — upwards — a the side • for grounded parts — oforwards — at the side — downwards — at the side — downwards = for live parts — forwards — oforwards — oforwards — otwards — at the side — downwards — at the side — otwards — other isole — other isol	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — a the side • for grounded parts — forwards — at the side • for grounded parts — forwards — upwards — at the side — downwards • for live parts — forwards — upwards — upwards — at the side — downwards — at the side — downwards — at the side — downwards — at the side — downwards — at the side — for main current circuit • for auxiliary and control circuit	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — upwards — a the side • for grounded parts — forwards — at the side • for grounded parts — forwards — upwards — at the side — downwards • for live parts — forwards — upwards — upwards — at the side Connections/ Terminals 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	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards — downwards — a the side • for grounded parts — forwards — at the side • for grounded parts — forwards — at the side — downwards • for live parts — forwards — upwards — downwards • for live parts — forwards — upwards — at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil	forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 140 mm 70 mm 152 mm 20 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm

connectable conductor contacts	ed with core end processin ctor cross-section for I	-	2x (2.5 16 mm ²) 2x (2,5 16 mm ²), 2x (10 . 2x (2.5 16 mm ²), 2x (10 . 2x (2.5 35 mm ²), 1x (2.5	50 mm²), 1x (10 70 r		
solidsolid or strande	h		2.5 16 mm² 4 70 mm²			
 stranded 			4 70 mm² 6 70 mm²			
 finely stranded 	with core end processin	Ig	2.5 50 mm ²			
connectable conduc contacts	ctor cross-section for a	auxiliary				
 solid or strande 	ed		0.5 2.5 mm²			
 finely stranded 	with core end processin	Ig	0.5 2.5 mm ²			
	conductor cross-sect	ions				
 for auxiliary con — solid 	ntacts		2x (0.5 1.5 mm²), 2x (0.7	$(5 - 2.5 \text{ mm}^2)$		
— solid — solid or sti	randed		2x (0.5 1.5 mm²), 2x (0.7 2x (0.5 1.5 mm²), 2x (0.7	,		
	nded with core end proc	essing	2x (0.5 1.5 mm²), 2x (0.7			
 at AWG cables 	for auxiliary contacts		2x (20 16), 2x (18 14)			
Safety related data						
product function						
	according to IEC 60947-		Yes			
 positively drive 5-1 	n operation according to	1EC 60947-	No			
proportion of dange	erous failures					
	nd rate according to SN		40 %			
-	and rate according to SN		73 %			
IEC 61508	st interval or service life a	according to	20 a			
	on the front according	to IEC	IP20			
60529 touch protection on	the front according to	IEC 60529	finger-safe, for vertical cont	act from the front		
Certificates/ approval	_					
	15					
General Product Ap						
		Confirmatio	• •	KC	rnr	
		<u>Confirmatio</u>	° (h	KC	FAC	
		Confirmatio	n (J)	KC	EAC	
	oproval	<u>Confirmatio</u>	n (J)	KC	EAC	
		Confirmatio	n (J) uL	KC	EAC	
General Product Ap	oproval		<u></u>		EAC	
		Confirmatio	<u></u>	KC Test Certificates	EAC	
General Product Ap	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates	EAC	
General Product Ap	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates	ERE	
General Product Ap	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates	ERE	
General Product Ap	Functional Safety/Safety of Machinery		f Conformity	Test Certificates		
General Product Ap	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates		
General Product Ap	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates		
General Product Ap	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates		
General Product Ap	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates		
General Product Ap	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates		
General Product Ap	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates		
General Product Ap	pproval	Declaration or UK CA	f Conformity	Test Certificates		
General Product Ap	pproval	Declaration or UK CA	f Conformity	Test Certificates		
General Product Ap	pproval	Declaration or UK CA	f Conformity EG-Konf.	Test Certificates		
General Product Ap General Product Ap CSA EMC EMC Marine / Shipping ABS	pproval		f Conformity EG-Konf.	Test Certificates		
General Product Ap General Product Ap CSA EMC EMC Marine / Shipping ABS	pproval		f Conformity E C EG-Konf.	Test Certificates		

Further information

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=3RT2446-1NP30

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2446-1NP30

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2446-1NP30

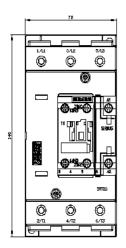
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

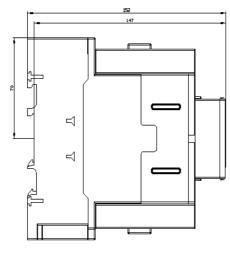
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2446-1NP30&lang=en

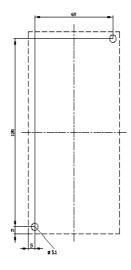
Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT2446-1NP30/char

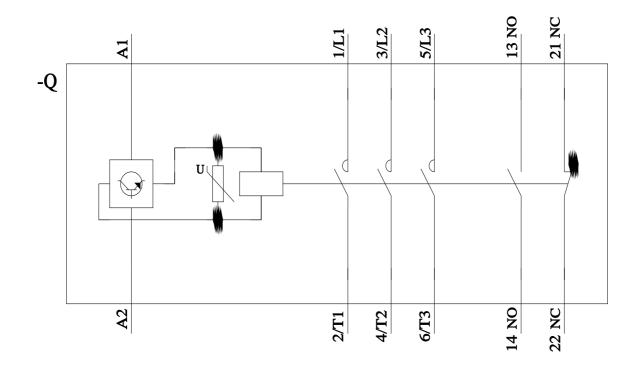
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2446-1NP30&objecttype=14&gridview=view1







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11/21/2022 🖸