SIEMENS

Data sheet 3RT2023-1NP30



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 200-280 V AC/DC, 50/60 Hz, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S0

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S0
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 	0.6 W
 at AC in hot operating state per pole 	0.2 W
 without load current share typical 	4.3 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	7,5g / 5 ms, 4,7g / 10 ms
• at DC	10g / 5 ms, 7,5g / 10 ms
shock resistance with sine pulse	
• at AC	11,8g / 5 ms, 7,4g / 10 ms
• at DC	15g / 5 ms, 10g / 10 ms
mechanical service life (operating cycles)	
 of contactor typical 	10 000 000
 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 %

lain circuit	2
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
 at AC-3 rated value maximum 	690 V
at AC-3e rated value maximum	690 V
operational current	
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	40 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	40 A
value	40 A
— up to 690 V at ambient temperature 60 °C rated	35 A
value	
• at AC-3	
— at 400 V rated value	9 A
— at 500 V rated value	9 A
— at 690 V rated value	9 A
• at AC-3e	
— at 400 V rated value	9 A
— at 500 V rated value	9 A
— at 690 V rated value	9 A
• at AC-4 at 400 V rated value	8.5 A
• at AC-5a up to 690 V rated value	35.2 A
 at AC-5b up to 400 V rated value 	7.4 A
• at AC-6a	
 up to 230 V for current peak value n=20 rated value 	11.4 A
 up to 400 V for current peak value n=20 rated value 	11.4 A
 up to 500 V for current peak value n=20 rated value 	9.1 A
 up to 690 V for current peak value n=20 rated value 	9 A
• at AC-6a	
 up to 230 V for current peak value n=30 rated value 	7.6 A
 up to 400 V for current peak value n=30 rated value 	7.6 A
 up to 500 V for current peak value n=30 rated value 	6.1 A
 up to 690 V for current peak value n=30 rated value 	6.1 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm ²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	4.1 A
at 690 V rated value	3.3 A
operational current	0.5 A
• at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 60 V rated value	20 A
— at 110 V rated value — at 110 V rated value	4.5 A
— at 110 V rated value — at 220 V rated value	1.A
— at 220 V rated value — at 440 V rated value	0.4 A
	0.4 A 0.25 A
— at 600 V rated valuewith 2 current paths in series at DC-1	0.20 A
— at 24 V rated value	35 A
— at 24 V rated value — at 60 V rated value	35 A
— at 110 V rated value — at 110 V rated value	35 A
— at 110 V rated value — at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
with 3 current paths in series at DC-1 at 24 V seted value.	25.4
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A

— at 600 V rated value	1.4 A		
• at 1 current path 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	2.5 A		
— at 220 V rated value	1 A		
— at 440 V rated value	0.09 A		
— at 600 V rated value	0.06 A		
 with 2 current paths in series at DC-3 at DC-5 			
— at 24 V rated value	35 A		
— at 60 V rated value	35 A		
— at 110 V rated value	15 A		
— at 220 V rated value	3 A		
— at 440 V rated value	0.27 A		
— at 600 V rated value	0.16 A		
 with 3 current paths in series at DC-3 at DC-5 			
— at 24 V rated value	35 A		
— at 60 V rated value	35 A		
— at 110 V rated value	35 A		
— at 220 V rated value	10 A		
— at 440 V rated value	0.6 A		
— at 600 V rated value	0.6 A		
operating power			
at AC-2 at 400 V rated value	4 kW		
• at AC-3	+ NVV		
— at 230 V rated value	2.2 kW		
— at 400 V rated value	4 kW		
	4 kW		
— at 500 V rated value			
— at 690 V rated value	7.5 kW		
• at AC-3e	2.0 IAM		
— at 230 V rated value	2.2 kW		
— at 400 V rated value	4 kW		
— at 500 V rated value	4 kW		
— at 690 V rated value	7.5 kW		
operating power for approx. 200000 operating cycles at AC-			
• at 400 V rated value	2 kW		
• at 690 V rated value	2.5 kW		
operating apparent power at AC-6a			
 up to 230 V for current peak value n=20 rated value 	4.5 kVA		
• up to 400 V for current peak value n=20 rated value	7.8 kVA		
• up to 500 V for current peak value n=20 rated value	7.8 kVA		
• up to 690 V for current peak value n=20 rated value	10.7 kVA		
operating apparent power at AC-6a			
up to 230 V for current peak value n=30 rated value	3 kVA		
up to 400 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value	5.2 kVA		
up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value	5.2 kVA		
up to 690 V for current peak value in=30 rated value up to 690 V for current peak value n=30 rated value	7.2 kVA		
short-time withstand current in cold operating state up to			
40 °C			
 limited to 1 s switching at zero current maximum 	170 A; Use minimum cross-section acc. to AC-1 rated value		
limited to 5 s switching at zero current maximum	170 A; Use minimum cross-section acc. to AC-1 rated value		
limited to 10 s switching at zero current maximum	140 A; Use minimum cross-section acc. to AC-1 rated value		
limited to 30 s switching at zero current maximum	104 A; Use minimum cross-section acc. to AC-1 rated value		
limited to 60 s switching at zero current maximum	88 A; Use minimum cross-section acc. to AC-1 rated value		
no-load switching frequency			
• at AC	1 500 1/h		
• at DC	1 500 1/h		
operating frequency			
at AC-1 maximum	1 000 1/h		
• at AC-2 maximum	1 000 1/h		

* al AC-3 maximum * al AC-4 ma	
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• at AC 50 80 ms	
■ at DC: 50 - 80 ms	
opening delay	
• at AC	
● at DC 30 50 ms arcing time 10 10 ms	
control version of the switch operating mechanism Standard A1 - A2	
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	
number of NO contacts for auxiliary contacts instantaneous 1 contact	
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	1 A 0.9 A		
at 220 V rated value	0.9 A 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	rically officially por roo million (17 V, 1 milly)		
full-load current (FLA) for 3-phase AC motor			
• at 480 V rated value	7.6 A		
• at 600 V rated value			
• at 600 V rated value yielded mechanical performance [hp]	9 A		
• for single-phase AC motor	4 ha		
— at 110/120 V rated value	1 hp		
— at 230 V rated value	1 hp		
• for 3-phase AC motor			
— at 200/208 V rated value	2 hp		
— at 220/230 V rated value	3 hp		
— at 460/480 V rated value	5 hp		
— at 575/600 V rated value	7.5 hp		
contact rating of auxiliary contacts according to UL	A600 / P600		
Short-circuit protection			
design of the fuse link			
 for short-circuit protection of the main circuit 			
 — with type of coordination 1 required 	gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)		
 — with type of assignment 2 required 	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)		
	gG: 10 A (500 V, 1 kA)		
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)		
• for short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions	gG: 10 A (500 V, 1 kA)		
	gG: 10 A (500 V, 1 kA) +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface		
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		
Installation/ mounting/ dimensions mounting position fastening method	+/-180° rotation possible on vertical mounting surface; can be tilted forward and		
Installation/ mounting/ dimensions mounting position fastening method • side-by-side mounting	+/-180° rotation possible on vertical mounting surface; can be tilted 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		
Installation/ mounting/ dimensions mounting position fastening method	+/-180° rotation possible on vertical mounting surface; can be tilted 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		
Installation/ mounting/ dimensions mounting position fastening method	+/-180° rotation possible on vertical mounting surface; can be tilted 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 85 mm 45 mm		
Installation/ mounting/ dimensions mounting position fastening method	+/-180° rotation possible on vertical mounting surface; can be tilted 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 85 mm		
Installation/ mounting/ dimensions mounting position fastening method	+/-180° rotation possible on vertical mounting surface; can be tilted 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 85 mm 45 mm		
Installation/ mounting/ dimensions mounting position fastening method	+/-180° rotation possible on vertical mounting surface; can be tilted 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 85 mm 45 mm 107 mm		
Installation/ mounting/ dimensions mounting position fastening method	+/-180° rotation possible on vertical mounting surface; can be tilted 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 85 mm 45 mm 107 mm		
Installation/ mounting/ dimensions mounting position fastening method	+/-180° rotation possible on vertical mounting surface; can be tilted 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 85 mm 45 mm 107 mm		
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at contactor for auxiliary contacts	Screw-type terminals			
of magnet coil	Screw-type terminals Screw-type terminals			
type of connectable conductor cross-sections for main contacts	Colon type terminals			
• solid	2x (1 2.5 mm²), 2x (2.5 10 mm²)			
solid or stranded	2x (1 2.5 mm²), 2x (2.5 10 mm²)			
 finely stranded with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²			
connectable conductor cross-section for main contacts				
• solid	1 10 mm²			
• stranded	1 10 mm²			
 finely stranded with core end processing 	1 10 mm²			
connectable conductor cross-section for auxiliary contacts				
solid or stranded	0.5 2.5 mm²			
 finely stranded with core end processing 	0.5 2.5 mm²			
type of connectable conductor cross-sections				
for auxiliary contacts				
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)			
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)			
 for AWG cables for auxiliary contacts 	2x (20 16), 2x (18 14)			
AWG number as coded connectable conductor cross section				
• for main contacts	16 8			
 for auxiliary contacts 	20 14			
Safety related data				
product function				
 mirror contact according to IEC 60947-4-1 	Yes			
B10 value with high demand rate according to SN 31920	450 000			
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			
suitability for use				
 safety-related switching OFF 	Yes			
Cartificates/ approvals				

Certificates/ approvals

General Product Approval



Confirmation





<u>KC</u>



EMC Safety/Safety of Ma- chinery	Declaration of Conformity	Test Certificates
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Type Examination Certificate

CE EG-Konf.



Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping













other Railway Dangerous Good Environment



Further information

Confirmation

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=3RT2023-1NP30

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2023-1NP30

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-1NP30

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

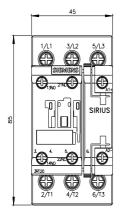
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2023-1NP30&lang=en

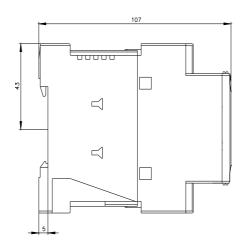
Characteristic: Tripping characteristics, I2t, Let-through current

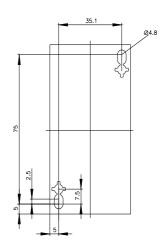
 $\underline{https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-1NP30/char}$

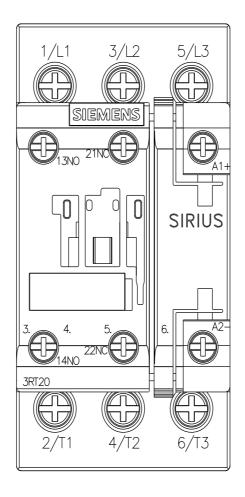
Further characteristics (e.g. electrical endurance, switching frequency)

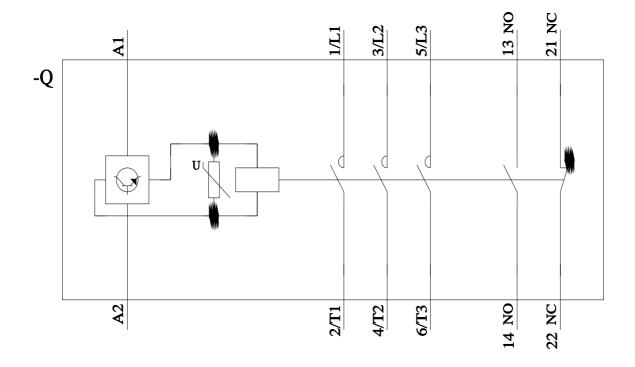
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2023-1NP30&objecttype=14&gridview=view1











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