SIEMENS

Data sheet 3RT2025-2AB00



power contactor, AC-3 17 A, 7.5 kW / 400 V 1 NO + 1 NC, 24 V AC, 50 Hz, 3-pole, Size S0 Spring-type terminal

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	2.7 W
• per pole	0.9 W
power loss [W] for rated value of the current without load current share typical	7.6 W
surge voltage resistance	
 of main circuit rated value 	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	7,5g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,8g / 5 ms, 7,4g / 10 ms
mechanical service life (switching 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 acc. to IEC 81346-2	Q
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature during operation	-25 +60 °C
ambient temperature during storage	-55 +80 °C
Main circuit	
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
operational current	

 at AC-1 at 400 V at ambient temperature 40 °C rated value at AC-1 	40 A
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	40 A
 up to 690 V at ambient temperature 60 °C rated value 	35 A
• at AC-3	
— at 400 V rated value	17 A
— at 500 V rated value	17 A
— at 690 V rated value	13 A
 at AC-4 at 400 V rated value 	15.5 A
 at AC-5a up to 690 V rated value 	35.2 A
 at AC-5b up to 400 V rated value 	14.1 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 	11.4 A
— up to 690 V for current peak value n=20 rated value	11.3 A
• at AC-6a	70.4
 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 	7.6 A
 up to 690 V for current peak value n=30 rated value 	7.6 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	
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value	7.7 A
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value	
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current	7.7 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1	7.7 A 7.7 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value	7.7 A 7.7 A 35 A
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value	7.7 A 7.7 A 35 A 4.5 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 110 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A 35 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 5 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 120 V rated value — at 440 V rated value — at 440 V rated value — at 440 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 36 A 37 A 38 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value • at 110 V rated value — at 24 V rated value — at 24 V rated value — at 440 V rated value — at 110 V rated value — at 440 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 5 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 24 V rated value — at 24 V rated value — at 600 V rated value • with 3 current paths in series at DC-1	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 35 A 4.5 A 1 A 0.8 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value — at 440 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A 35 A
rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 110 V rated value — at 220 V rated value — at 24 V rated value — at 24 V rated value — at 24 V rated value — at 440 V rated value — at 24 V rated value — at 600 V rated value — at 24 V rated value — at 110 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value • at 110 V rated value — at 110 V rated value	7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 36 A 1 A 0.8 A
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rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 110 V rated value — at 220 V rated value — at 220 V rated value — at 24 V rated value — at 24 V rated value — at 24 V rated value — at 440 V rated value — at 600 V rated value — at 24 V rated value — at 110 V rated value — at 110 V rated value — at 24 V rated value — at 24 V rated value — at 24 V rated value — at 440 V rated value — at 440 V rated value	7.7 A 7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A 35 A
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rated value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 110 V rated value — at 220 V rated value — at 24 V rated value — at 220 V rated value — at 220 V rated value — at 440 V rated value — at 440 V rated value — at 600 V rated value — at 24 V rated value — at 24 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value — at 600 V rated value	7.7 A 7.7 A 7.7 A 35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 35 A 35 A 2.9 A
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● at 50 Hz	0.82
apparent holding power of magnet coil at AC	
● at 50 Hz	7.6 V·A
inductive power factor with the holding power of the	
coil • at 50 Hz	0.25
closing delay	0.20
• at AC	9 38 ms
opening delay	5 55 His
• at AC	4 16 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
	1
number of NC contacts for auxiliary contacts instantaneous contact	
number of NO contacts for auxiliary contacts	1
instantaneous contact operational current at AC-12 maximum	10 A
<u> </u>	10 A
operational current at AC-15	40 A
at 230 V rated value at 400 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	17 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	1 hp
— at 230 V rated value	3 hp
• for 3-phase AC motor	Vp
— at 200/208 V rated value	3 hp
— at 220/230 V rated value — at 220/230 V rated value	5 hp
— at 460/480 V rated value	
— at 460/480 V rated value — at 575/600 V rated value	10 hp
	15 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)



 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)
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
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
side-by-side mounting	Yes
height	102 mm
width	45 mm
depth	97 mm
required spacing	
with side-by-side mounting	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
 for grounded parts 	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
 for live parts 	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
 for main current circuit 	spring-loaded terminals
 for auxiliary and control circuit 	spring-loaded terminals
 at contactor for auxiliary contacts 	Spring-type terminals
of magnet coil	Spring-type terminals
type of connectable conductor cross-sections	
 for main contacts 	
— solid	2x (1 10 mm²)
— solid or stranded	2x (1 10 mm²)
 finely stranded with core end processing 	2x (1 6 mm²)
 finely stranded without core end processing 	2x (1 6 mm²)
at AWG cables for main contacts	2x (18 8)
connectable conductor cross-section for main contacts	
• solid	1 10 mm²
• stranded	1 10 mm²
 finely stranded with core end processing 	1 6 mm²
finely stranded without core end processing	1 6 mm²
connectable conductor cross-section for auxiliary contacts	
 solid or stranded 	0.5 2.5 mm²
 finely stranded with core end processing 	0.5 1.5 mm ²
finely stranded without core end processing	0.5 2.5 mm ²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 2.5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²)
 finely stranded without core end processing 	2x (0.5 2.5 mm²)
at AWG cables for auxiliary contacts	2x (20 14)
 AWG number as coded connectable conductor cross section for main contacts 	18 8



20 ... 14 • AWG number as coded connectable conductor cross section for auxiliary contacts Safety related data B10 value with high demand rate acc. to SN 31920 1 000 000 proportion of dangerous failures • with low demand rate acc. to SN 31920 40 % • with high demand rate acc. to SN 31920 73 % failure rate [FIT] with low demand rate acc. to SN 31920 100 FIT product function • mirror contact acc. to IEC 60947-4-1 Yes T1 value for proof test interval or service life acc. to 20 y **IEC 61508** IP20 protection class IP on the front acc. to IEC 60529 touch protection on the front acc. to IEC 60529 finger-safe, for vertical contact from the front suitability for use safety-related switching OFF

Certificates/ approvals

General Product Approval















Declaration of Conformity

Test Certificates

Marine / Shipping



Miscellaneous

Special Test Certificate

Type Test Certificates/Test Report





Marine / Shipping













Confirmation

other



Confirmation

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=3RT2025-2AB00

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2025-2AB00

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-2AB00

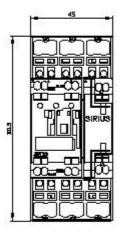
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

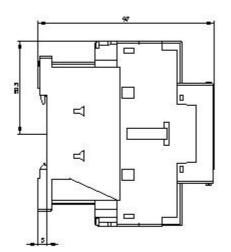
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2025-2AB00&lang=en

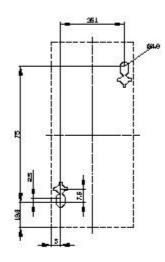
Characteristic: Tripping characteristics, I2t, Let-through current

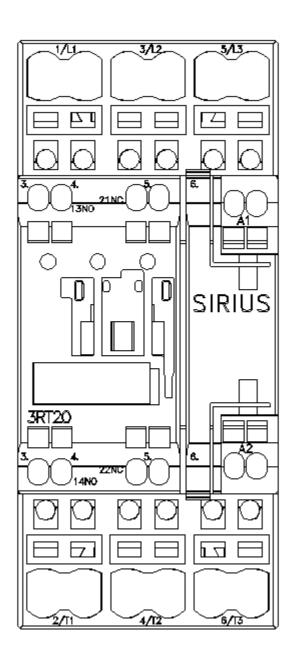
https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-2AB00/char

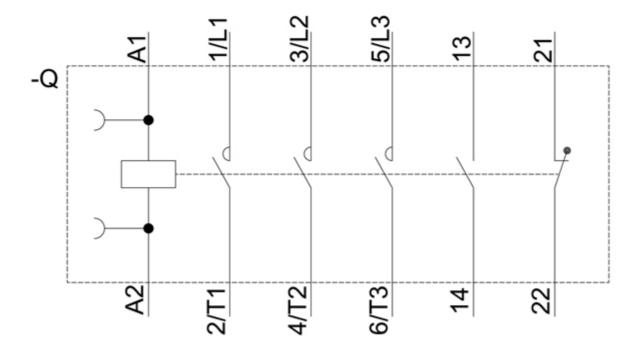












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