SIEMENS

Data sheet

3RT2035-1AB00



power contactor, AC-3 40 A, 18.5 kW / 400 V 1 NO + 1 NC, 24 V AC 50 Hz, 3-pole, Size S2, screw terminal

product brand name	SIRIUS	
product designation	Power contactor	
product type designation	3RT2	
General technical data		
size of contactor	S2	
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	6.6 W	
per pole	2.2 W	
power loss [W] for rated value of the current without load current share typical	16 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	11.8g / 5 ms, 7.4g / 10 ms	
shock resistance with sine pulse		
• at AC	18.5g / 5 ms, 11.6g / 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 	60 A
• at AC-1	
 up to 690 V at ambient temperature 40 °C rated value 	60 A
 — up to 690 V at ambient temperature 60 °C rated value 	55 A
• at AC-3	
— at 400 V rated value	41 A
— at 500 V rated value	41 A
— at 690 V rated value	24 A
 at AC-4 at 400 V rated value 	35 A
 at AC-5a up to 690 V rated value 	52.8 A
 at AC-5b up to 400 V rated value 	33.2 A
● at AC-6a	
 — up to 230 V for current peak value n=20 rated value 	36.5 A
 — up to 400 V for current peak value n=20 rated value 	36.5 A
— up to 500 V for current peak value n=20 rated value	36.5 A
— up to 690 V for current peak value n=20 rated value	24 A
• at AC-6a	
 — up to 230 V for current peak value n=30 rated value 	24.2 A
 — up to 400 V for current peak value n=30 rated value 	24.2 A
 — up to 500 V for current peak value n=30 rated value 	24.2 A
 — up to 690 V for current peak value n=30 rated value 	24 A
minimum cross-section in main circuit at maximum AC-1 rated value	16 mm ²
operational current for approx. 200000 operating cycles at AC-4	
 at 400 V rated value 	22 A
at 690 V rated value	18.5 A
operational current	
 at 1 current path at DC-1 	
— at 24 V rated value	55 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	55 A
— at 110 V rated value	45 A
— 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 rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	45 A
— at 440 V rated value	2.9 A
- at 600 V rated value	1.4 A
e at 1 current path at DC-3 at DC-5	
 at 1 current path at DC-3 at DC-5 — at 24 V rated value 	35 A
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 — at 110 V rated value 	2.5 A

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— at 220 V rated value	1 A		
— at 440 V rated value	0.1 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	55 A		
— at 110 V rated value	25 A		
— at 220 V rated value	5 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	55 A		
— at 110 V rated value	55 A		
— at 220 V rated value	25 A		
— at 440 V rated value	0.6 A		
— at 600 V rated value	0.35 A		
operating power	40.51114		
• at AC-2 at 400 V rated value	18.5 kW		
• at AC-3			
— at 230 V rated value	11 kW		
— at 400 V rated value	18.5 kW		
— at 500 V rated value	22 kW		
— at 690 V rated value	22 kW		
operating power for approx. 200000 operating cycles at AC-4			
 at 400 V rated value 	11.6 kW		
• at 690 V rated value	16.8 kW		
operating apparent power at AC-6a			
• up to 230 V for current peak value n=20 rated value	14.5 kV·A		
 up to 400 V for current peak value n=20 rated value 	25.2 kV·A		
 up to 500 V for current peak value n=20 rated value 	31.6 kV·A		
 up to 690 V for current peak value n=20 rated value 	28.6 kV·A		
operating apparent power at AC-6a			
 up to 230 V for current peak value n=30 rated value 	9.6 kV·A		
 up to 400 V for current peak value n=30 rated value 	16.8 kV·A		
 up to 500 V for current peak value n=30 rated value 	21 kV·A		
 up to 690 V for current peak value n=30 rated value 	28.6 kV·A		
short-time withstand current in cold operating state			
up to 40 °C			
 limited to 1 s switching at zero current maximum limited to 5 a switching at zero surrent maximum 	843 A; Use minimum cross-section acc. to AC-1 rated value		
 limited to 5 s switching at zero current maximum 	596 A; Use minimum cross-section acc. to AC-1 rated value		
 limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum 	400 A; Use minimum cross-section acc. to AC-1 rated value 241 A; Use minimum cross-section acc. to AC-1 rated value		
 Imited to 30's switching at zero current maximum Iimited to 60 s switching at zero current maximum 	196 A; Use minimum cross-section acc. to AC-1 rated value		
no-load switching frequency	Too A, Ose minimum cross-section act. to AC-11 aleu Value		
• at AC	5 000 1/h		
operating frequency			
• at AC-1 maximum	1 200 1/h		
• at AC-2 maximum	750 1/h		
• at AC-3 maximum	1 000 1/h		
• at AC-4 maximum	300 1/h		
Control circuit/ Control			
type of voltage of the control supply voltage	AC		
control supply voltage at AC			
at 50 Hz rated value	24 V		
operating range factor control supply voltage rated			
value of magnet coil at AC			
• at 50 Hz	0.8 1.1		
apparent pick-up power of magnet coil at AC			
• at 50 Hz	190 V·A		

inductive power factor with closing power of the coil			
• at 50 Hz	0.72		
 apparent holding power of magnet coil at AC at 50 Hz 	16 V·A		
inductive power factor with the holding power of the coil			
• at 50 Hz	0.37		
closing delay	0.01		
• at AC	10 80 ms		
opening delay	10 00 113		
• at AC	10 18 ms		
	10 20 ms		
arcing time			
control version of the switch operating mechanism	Standard A1 - A2		
Auxiliary circuit			
number of NC contacts for auxiliary contacts instantaneous contact	1		
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	40 A		
at 400 V rated value at 600 V rated value	40 A 41 A		
yielded mechanical performance [hp]			
• for single-phase AC motor			
at 110/120 V rated value	3 hn		
	3 hp 7 5 hp		
— at 230 V rated value	7.5 hp		
• for 3-phase AC motor	10 hr		
- at 200/208 V rated value	10 hp		
— at 220/230 V rated value	15 hp		
— at 460/480 V rated value	30 hp		
— at 575/600 V rated value	40 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: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415		



V, 80 kA)

— with type of assignment 2 requiredfor short-circuit protection of the auxiliary switch

required

gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA) gG: 10 A (500 V, 1 kA)

nstallation/ mounting/ dimensions			
	1/ 100° rotation passible on variant may write a write as an be titled		
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	114 mm		
width	55 mm		
depth	130 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		
	0 mm		
Connections/ Terminals			
type of electrical connection			
for main current circuit	screw-type terminals		
for auxiliary and control circuit	screw-type terminals		
at contactor for auxiliary contacts	Screw-type terminals		
of magnet coil	Screw-type terminals		
type of connectable conductor cross-sections			
for main contacts			
— solid or stranded	2x (1 35 mm²), 1x (1 50 mm²)		
 finely stranded with core end processing 	2x (1 25 mm²), 1x (1 35 mm²)		
at AWG cables for main contacts	2x (18 2), 1x (18 1)		
connectable conductor cross-section for main contacts			
 finely stranded with core end processing 	1 35 mm²		
connectable conductor cross-section for auxiliary contacts			
 solid or stranded 	0.5 2.5 mm ²		
 finely stranded with core end processing 	0.5 2.5 mm ²		
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)		
 at AWG cables for auxiliary contacts 	2x (20 16), 2x (18 14)		
AWG number as coded connectable conductor cross section for main contacts	18 1		
 AWG number as coded connectable conductor cross section for auxiliary contacts 	20 14		
Safety related data			
proportion of dangerous failures			
• with low demand rate acc. to SN 31920	40 %		

with high demand rate acc. to SN 3192 failure rate [FIT] with low demand rate acc. to product function mirror contact acc. to IEC 60947-4-1 positively driven operation acc. to IEC 0 protection class IP on the front acc. to IEC 0 touch protection on the front acc. to IEC 0 suitability for use safety-related switching OF	SN 31920 100 Yes Yes 60947-5-1 No 60529 IP20 0529 finge	FIT	act from the front	
Certificates/ approvals				
General Product Approval				EMC
		<u>KC</u>	EHC	RCM
Declaration of Conformity	Test Certificates		Marine / Shipping	
Miscellaneous EG-Konf.	<u>Special Test</u> <u>Certificate</u>	<u>Type Test</u> <u>Certificates/Test</u> <u>Report</u>	ABS	BUREAU VERITAS
Marine / Shipping				other
Llovd's Register Uts PRS	RINA	RMRS	DNV-GL ENVILCONSE	<u>Confirmation</u>
other				
Confirmation				

Further information

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=3RT2035-1AB00

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2035-1AB00

- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
- https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1AB00

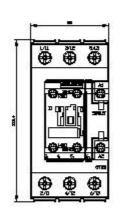
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2035-1AB00&lang=en

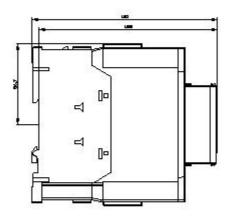
Characteristic: Tripping characteristics, I²t, Let-through current

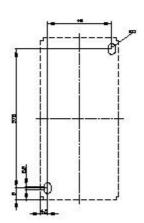
https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1AB00/char

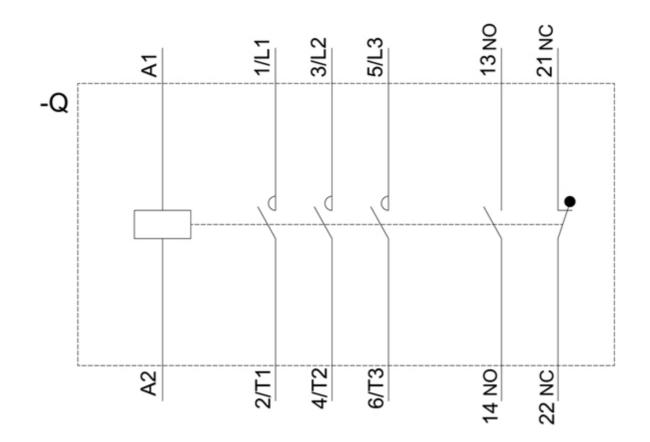
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2035-1AB00&objecttype=14&gridview=view1











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