SIEMENS

Data sheet

3RT2035-3AF00

power contactor, AC-3 40 A, 18.5 kW / 400 V 1 NO + 1 NC, 110 V AC 50 Hz, 3-pole, Size S2, Spring-type 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
 at AC in hot operating state 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

protection class IP	
• on the front	IP20
• of the terminal	IP00
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 electronics- compatible auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code acc. to DIN EN 81346-2	Q
Ambient conditions	
installation altitude at height above sea level	2 000 m
maximum	
ambient temperature	
 during operation 	-25 +60 °C
• 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
operating current	
• at AC-1 at 400 V	
 — at ambient temperature 40 °C rated value at AC-1 	60 A
— 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	
▼ al AC-0a	

 — 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	36.5 A
rated value	
— 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
operating current for approx. 200000 operating	
cycles at AC-4	
• at 400 V rated value	22 A
• at 690 V rated value	18.5 A
operating 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
operating current	

• at 1 current path at DC-3 at DC-5	35 A
— at 24 V rated value	2.5 A
— at 110 V rated value	1 A
— at 220 V rated value	0.1 A
— at 440 V rated value	
— 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	
 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 output 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 output 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 	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 	400 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 30 s switching at zero current maximum 	241 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 60 s switching at zero current maximum 	196 A; Use minimum cross-section acc. to AC-1 rated value			
no-load switching frequency				
• 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				
Control circuit/ Control type of voltage of the control supply voltage	AC			
type of voltage of the control supply voltage				
type of voltage of the control supply voltage control supply voltage at AC	AC			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated	AC			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC	AC 110 V			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz	AC 110 V			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC	AC 110 V 0.8 1.1			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz	AC 110 V 0.8 1.1			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz inductive power factor with closing power of the coil	AC 110 V 0.8 1.1 190 V·A			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz inductive power factor with closing power of the coil • at 50 Hz	AC 110 V 0.8 1.1 190 V·A			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz inductive power factor with closing power of the coil • at 50 Hz apparent holding power of magnet coil at AC	AC 110 V 0.8 1.1 190 V·A 0.72			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz inductive power factor with closing power of the coil • at 50 Hz apparent holding power of magnet coil at AC • at 50 Hz inductive power factor with the holding power of the	AC 110 V 0.8 1.1 190 V·A 0.72			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz inductive power factor with closing power of the coil • at 50 Hz apparent holding power of magnet coil at AC • at 50 Hz inductive power factor with the holding power of the coil	AC 110 V 0.8 1.1 190 V·A 0.72 16 V·A			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz inductive power factor with closing power of the coil • at 50 Hz apparent holding power of magnet coil at AC • at 50 Hz inductive power factor with the holding power of the coil • at 50 Hz	AC 110 V 0.8 1.1 190 V·A 0.72 16 V·A			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz inductive power factor with closing power of the coil • at 50 Hz apparent holding power of magnet coil at AC • at 50 Hz inductive power factor with the holding power of the coil • at 50 Hz inductive power factor with the holding power of the coil • at 50 Hz	AC 110 V 0.8 1.1 190 V·A 0.72 16 V·A 0.37			
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz inductive power factor with closing power of the coil • at 50 Hz apparent holding power of magnet coil at AC • at 50 Hz inductive power factor with the holding power of the coil • at 50 Hz inductive power factor with the holding power of the coil • at 50 Hz	AC 110 V 0.8 1.1 190 V·A 0.72 16 V·A 0.37			

arcing time	10 20 ms
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
operating current at AC-12 maximum	10 A
operating 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
operating 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
operating 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 three-phase AC motor	
• at 480 V rated value	40 A
• at 600 V rated value	41 A

yielded mechanical performance [hp]for single-phase AC motor

- at 110/120 V rated value

at 200/208 V rated value
at 220/230 V rated value

- at 230 V rated value

• for three-phase AC motor

3 hp

7.5 hp

10 hp

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 required 	gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (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			
mounting type	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			
Connections/ Terminals				
type of electrical connection				
 for main current circuit 	screw-type terminals			
 for auxiliary and control current 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 				
— single or multi-stranded	2x (1 35 mm²), 1x (1 50 mm²)			
 finely stranded with core end processing 	2x (1 25 mm ²), 1x (1 35 mm ²)			
• at AWG conductors 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				
 single or multi-stranded 	0.5 2.5 mm²			
 finely stranded with core end processing 	0.5 1.5 mm²			
 finely stranded without core end processing 	0.5 2.5 mm²			
 type of connectable conductor cross-sections for auxiliary contacts 				
— single or multi-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)			
 type of connectable conductor cross-sections at AWG conductors for auxiliary contacts 	2x (20 14)			
AWG number as coded connectable conductor cross section				
 for main contacts 	18 1			
 for auxiliary contacts 	20 14			
Safety related data				
B10 value	4 000 000			
• with high demand rate acc. to SN 31920	1 000 000			
proportion of dangerous failures	40.9/			
• with low demand rate acc. to SN 31920	40 %			
• with high demand rate acc. to SN 31920 failure rate [FIT]	73 %			
	100 FIT			
with low demand rate acc. to SN 31920 product function				
mirror contact acc. to IEC 60947-4-1	Yes			
 positively driven operation acc. to IEC 60947-5- 	No			
T1 value for proof test interval or service life acc. to IEC 61508	20 у			
protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529			
suitability for use safety-related switching OFF	Yes			

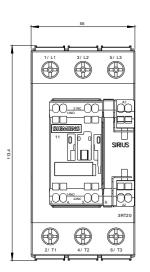
Certificates/ approva	als				
General Product	Approval				EMC
CCC	CSA		<u>KC</u>	EHC	RCM
Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates	3	Marine / Ship- ping
Type Examination Certificate	EG-Konf.	Miscellaneous	Type Test Certific- ates/Test Report	Special Test Certi- ficate	ABS
Marine / Shipping	g				
BUREAU VERITAS	Lloyd's Register Irs	PRS	RINA	RMRS	DNV-GL DNVGLCOM/AF
other					
Confirmation					
Further information					
Information- and Downloadcenter (Catalogs, Brochures,) https://www.siemens.com/ic10					
Industry Mall (Online https://mall.industry.sier	ordering system) en/Catalog/product?mlfb=3	RT2035-3AF00		
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Service&Support (Ma	anuals, Certificate	es, Characteristics, FAQ			

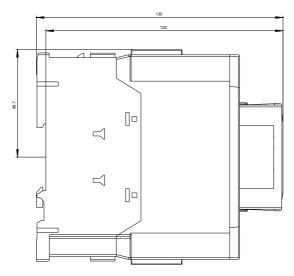
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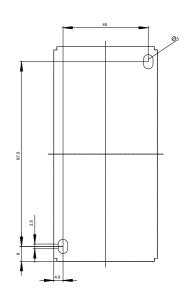
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2035-3AF00&lang=en

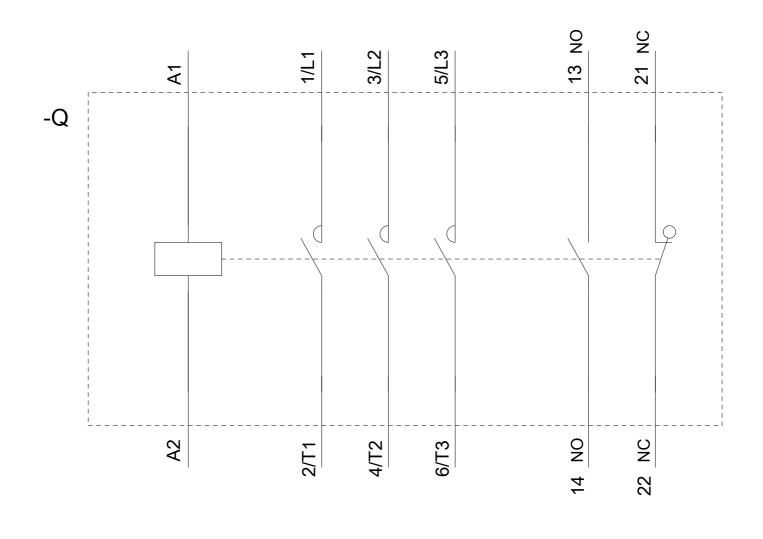
Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-3AF00/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2035-3AF00&objecttype=14&gridview=view1









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