SIEMENS

Data sheet

3RT2035-1CL24-3MA0

power contactor, AC-3 40 A, 18.5 kW / 400 V 2 NO + 2 NC, 230 V AC 50 / 60 Hz, with inserted varistor, 3-pole, Size S2, screw terminal Captive auxiliary switch



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 	No
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	17.2 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	9.8g / 5 ms, 6.5g / 10 ms			
shock resistance with sine pulse				
• at AC	15.3g / 5 ms, 10.1g / 10 ms			
mechanical service life (switching cycles)				
 of contactor typical 	10 000 000			
 of the contactor with added electronics- 	5 000 000			
compatible auxiliary switch block typical				
• of the contactor with added auxiliary switch	10 000 000			
block typical				
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	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	36.5 A
rated value	
— 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
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

• at 1 current path at DC-3 at DC-5	25 A
— at 24 V rated value	35 A 2.5 A
— at 110 V rated value	1 A
— at 220 V rated value	
— 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	
• 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				
type of voltage of the control supply voltage	AC			
control supply voltage at AC				
• at 50 Hz rated value	230 V			
• at 60 Hz rated value	230 V			
operating range factor control supply voltage rated				
value of magnet coil at AC				
● at 50 Hz	0.8 1.1			
● at 60 Hz	0.85 1.1			
design of the surge suppressor	with varistor			
apparent pick-up power of magnet coil at AC				
● at 50 Hz	210 V·A			
• at 60 Hz	188 V·A			
inductive power factor with closing power of the coil				
• at 50 Hz	0.69			
• at 60 Hz	0.65			
apparent holding power of magnet coil at AC				
• at 50 Hz	17.2 V·A			
● at 60 Hz	16.5 V·A			

0.36
0.39
10 80 ms
10 18 ms
10 20 ms
Standard A1 - A2
2
2
10 A
6 A
3 A
2 A
1 A
10 A
6 A
6 A
3 A
2 A
1 A
0.15 A
6 A
2 A
2 A
1 A
0.9 A
0.3 A
0.1 A
1 faulty switching per 100 million (17 V, 1 mA)

• at 600 V rated value	41 A				
yielded mechanical performance [hp]					
 for single-phase AC motor 					
— at 110/120 V rated value	3 hp				
— at 230 V rated value	7.5 hp				
 for three-phase AC motor 					
— 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 / Q600				
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	174 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					

	10			
— 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 	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 				
— single or multi-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 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 2.5 mm²			
 type of connectable conductor cross-sections 				
for auxiliary contacts				
— single or multi-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)			
 type of connectable conductor cross-sections at AWG conductors for auxiliary contacts 	2x (20 16), 2x (18 14)			
AWG number as coded connectable conductor cross				
section				
 for main contacts 	18 1			
 for auxiliary contacts 	20 14			
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			

 positively drive 1 	n operation acc. to) IEC 60947-5-	No		
T1 value for proof test interval or service life acc. to IEC 61508			20 у		
protection against ele	ectrical shock		finger-safe when touc	hed vertically from fr	ont acc. to IEC 60529
suitability for use saf	ety-related switchi	ng OFF	Yes		
Certificates/ approva					
General Product	Approval				EMC
	CSA		<u>KC</u>	EHC	RCM
Functional Safety/Safety of Machinery	Declaration of	Conformity	Test Certifica	tes	Marine / Ship- ping
Type Examination Certificate	EG-Konf.	Miscellaneo	us <u>Special Test Cer</u> <u>ficate</u>	ti- Type Test Certifi ates/Test Repor	
Marine / Shippin	g				
B U R E A U VERITAS	Lloyd's Register LRS	PRS	RINA	RMRS	DNV-GL DNVGLCOM/AF
other					
Confirmation					
urther information Information- and Dow https://www.siemens.co	om/ic10	alogs, Brochures,)		

Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2035-1CL24-3MA0

Cax online generator

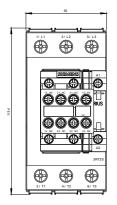
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2035-1CL24-3MA0

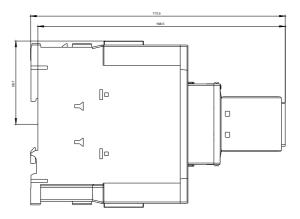
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1CL24-3MA0

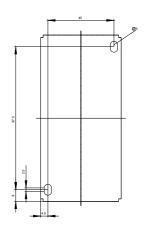
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2035-1CL24-3MA0&lang=en

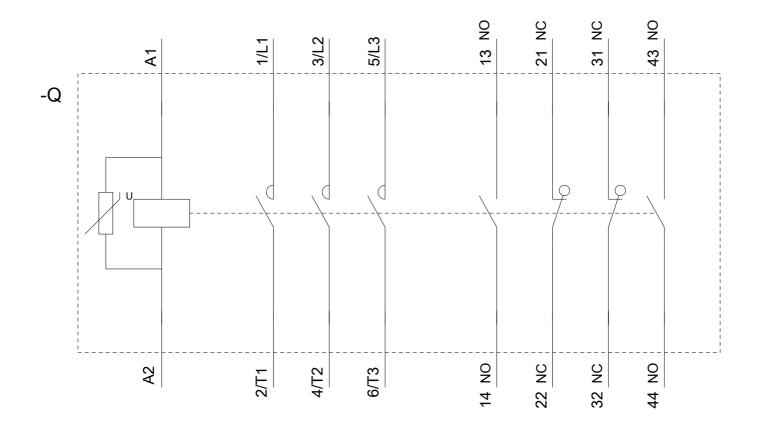
Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1CL24-3MA0/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2035-1CL24-3MA0&objecttype=14&gridview=view1









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