SIEMENS

Data sheet

3RT1054-8AR38-0PR0



power contactor, AC-3e/AC-3 115 A, 55 kW / 400 V, AC (50-60 Hz) / DC Uc: 440-480 V 3-pole, auxiliary switch right 3RH1921-2DE11 drive: conventional main circuit: box terminal control and auxiliary circuit: screw terminal

product brand name	SIRIUS		
product designation	Power contactor		
product type designation	3RT1		
General technical data			
size of contactor	S6		
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 	21 W		
 at AC in hot operating state per pole 	7 W		
 without load current share typical 	5.2 W		
insulation voltage			
 of main circuit with degree of pollution 3 rated value 	1 000 V		
 of auxiliary circuit with degree of pollution 3 rated value 	500 V		
surge voltage resistance			
 of main circuit rated value 	8 kV		
 of auxiliary circuit rated value 	6 kV		
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V		
shock resistance at rectangular impulse			
• at AC	8,5g / 5 ms, 4,2g / 10 ms		
• at DC	8,5g / 5 ms, 4,2g / 10 ms		
shock resistance with sine pulse			
• at AC	13,4g / 5 ms, 6,5g / 10 ms		
• at DC	13,4g / 5 ms, 6,5g / 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)	03/01/2017		
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 %		

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	1 000 V				
 at AC-3e rated value maximum 	1 000 V				
operational current					
at AC-1 at 400 V at ambient temperature 40 °C rated value	160 A				
• at AC-1					
— up to 690 V at ambient temperature 40 °C rated value	160 A				
— up to 690 V at ambient temperature 60 °C rated value	140 A				
• at AC-3					
— at 400 V rated value	115 A				
— at 500 V rated value	115 A				
— at 690 V rated value	115 A				
 — at 1000 V rated value • at AC-3e 	53 A				
— at 400 V rated value	115 A				
- at 500 V rated value	115 A				
— at 690 V rated value	115 A				
— at 1000 V rated value	53 A				
 at 1000 V rated value at AC-4 at 400 V rated value 	53 A 97 A				
• at AC-5a up to 690 V rated value	140 A				
• at AC-5b up to 400 V rated value	95 A				
• at AC-6a					
— up to 230 V for current peak value n=20 rated value	115 A				
— up to 400 V for current peak value n=20 rated value	115 A				
 — up to 500 V for current peak value n=20 rated value 	115 A				
 — up to 690 V for current peak value n=20 rated value 	115 A				
— up to 1000 V for current peak value n=20 rated value	53 A				
• at AC-6a					
— up to 230 V for current peak value n=30 rated value	98 A				
— up to 400 V for current peak value n=30 rated value	98 A				
 — up to 500 V for current peak value n=30 rated value 	98 A				
 — up to 690 V for current peak value n=30 rated value 	98 A				
— up to 1000 V for current peak value n=30 rated value	53 A				
minimum cross-section in main circuit at maximum AC-1 rated value	70 mm ²				
operational current for approx. 200000 operating cycles at AC-4					
• at 400 V rated value	54 A				
at 690 V rated value	48 A				
operational current					
 at 1 current path at DC-1 					
— at 24 V rated value	160 A				
— at 60 V rated value	160 A				
— at 110 V rated value	18 A				
— at 220 V rated value	3.4 A				
— at 440 V rated value	0.8 A				
— at 600 V rated value	0.5 A				
 with 2 current paths in series at DC-1 					
— at 24 V rated value	160 A				
— at 60 V rated value	160 A				
— at 110 V rated value	160 A				
— at 220 V rated value	20 A				
— at 440 V rated value	3.2 A				
— at 600 V rated value	1.6 A				

— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	11.5 A
— at 600 V rated value	4 A
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	160 A
— at 60 V rated value	7.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.17 A
— at 600 V rated value	0.12 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
operating power	
• at AC-2 at 400 V rated value	55 kW
• at AC-3	
— at 230 V rated value	37 kW
— at 400 V rated value	55 kW
— at 500 V rated value	75 kW
— at 690 V rated value	110 kW
— at 1000 V rated value	75 kW
• at AC-3e	
— at 230 V rated value	37 kW
— at 400 V rated value	55 kW
— at 500 V rated value	75 kW
— at 690 V rated value	110 kW
— at 1000 V rated value	75 kW
operating power for approx. 200000 operating cycles at AC-	
4	
• at 400 V rated value	29 kW
• at 690 V rated value	48 kW
operating apparent power at AC-6a	
 up to 230 V for current peak value n=20 rated value 	40 000 kVA
 up to 400 V for current peak value n=20 rated value 	80 000 VA
 up to 500 V for current peak value n=20 rated value 	100 000 VA
 up to 690 V for current peak value n=20 rated value 	130 000 VA
 up to 1000 V for current peak value n=20 rated value 	90 000 VA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	30 000 VA
 up to 400 V for current peak value n=30 rated value 	60 000 VA
 up to 500 V for current peak value n=30 rated value 	80 000 VA
 up to 690 V for current peak value n=30 rated value 	110 000 VA
 up to 1000 V for current peak value n=30 rated value 	90 000 VA
short-time withstand current in cold operating state up to	
40 °C	
• limited to 1 s switching at zero current maximum	2 565 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 5 s switching at zero current maximum	1 654 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	1 170 A; Use minimum cross-section acc. to AC-1 rated value

 limited to 30 s switching at zero current maximum 	729 A; Use minimum cross-section acc. to AC-1 rated value				
 limited to 60 s switching at zero current maximum 	572 A; Use minimum cross-section acc. to AC-1 rated value				
no-load switching frequency					
• at AC	2 000 1/h				
• at DC	2 000 1/h				
operating frequency					
• at AC-1 maximum	800 1/h				
• at AC-2 maximum	400 1/h				
• at AC-3 maximum	1 000 1/h				
• at AC-3e maximum	1 000 1/h				
• at AC-4 maximum	130 1/h				
Control circuit/ Control					
type of voltage of the control supply voltage	AC/DC				
control supply voltage at AC					
• at 50 Hz rated value	440 480 V				
 at 60 Hz rated value 	440 480 V				
control supply voltage at DC					
rated value	440 480 V				
operating range factor control supply voltage rated value of					
magnet coil at DC					
• initial value	0.8				
full-scale value	1.1				
operating range factor control supply voltage rated value of magnet coil at AC					
• at 50 Hz	0.8 1.1				
• at 60 Hz	0.8 1.1				
design of the surge suppressor	with varistor				
apparent pick-up power of magnet coil at AC					
• at 50 Hz	300 VA				
• at 60 Hz	300 VA				
inductive power factor with closing power of the coil					
• at 50 Hz	0.9				
• at 60 Hz	0.9				
apparent holding power of magnet coil at AC					
• at 50 Hz	5.8 VA				
• at 60 Hz	5.8 VA				
inductive power factor with the holding power of the coil					
• at 50 Hz	0.8				
• at 60 Hz	0.8				
closing power of magnet coil at DC	360 W				
holding power of magnet coil at DC	5.2 W				
closing delay					
• at AC	20 95 ms				
• at DC	20 95 ms				
opening delay					
• at AC	40 60 ms				
• at DC	40 60 ms				
arcing time	10 15 ms				
control version of the switch operating mechanism	Standard A1 - A2				
Auxiliary circuit					
number of NC contacts for auxiliary contacts instantaneous	1				
contact number of NO contacts for auxiliary contacts instantaneous	1				
contact	10.0				
operational current at AC-12 maximum	10 A				
operational current at AC-15	6.4				
at 230 V rated value	6 A				
at 400 V rated value	3 A				
	2.4				
at 500 V rated value	2 A				
• at 690 V rated value	2 A 1 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	1A				
• 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	1A				
• 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	124 A				
at 600 V rated value	125 A				
yielded mechanical performance [hp]					
for single-phase AC motor					
- at 230 V rated value	25 hp				
for 3-phase AC motor					
- at 200/208 V rated value	40 hp				
— at 220/230 V rated value	50 hp				
— at 460/480 V rated value	100 hp				
— at 575/600 V rated value	125 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: 355 A (690 V, 100 kA)				
- with type of assignment 2 required	gG: 250 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 A (415 V, 50				
	kA)				
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)				
Installation/ mounting/ dimensions					
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface				
	+/- 22.5° tiltable to the front and back				
fastening method	screw fixing				
side-by-side mounting	Yes				
height	172 mm				
width	120 mm				
depth	170 mm				
required spacing					
 with side-by-side mounting 					
— forwards	20 mm				
— upwards	10 mm				
— downwards	10 mm				
— at the side	0 mm				
 for grounded parts 					
— forwards	20 mm				
— upwards	10 mm				
— at the side	10 mm				
— downwards	10 mm				
for live parts					
— forwards	20 mm				
— upwards	10 mm				
— downwards	10 mm				
— at the side	10 mm				
Connections/ Terminals					
type of electrical connection					

 for main current of 	circuit		Connection b	ar			
				Spring-type terminals			
of magnet coil			Screw-type te				
width of connection b							
thickness of connection bar			17 mm 3 mm				
diameter of holes			9 mm				
number of holes			1				
connectable conductor cross-section for auxiliary contacts							
		inary contacts	0.25 2.5 m	m ²			
solid or stranded							
•	finely stranded with core end processing type of connectable conductor cross-sections			0.25 2.5 mm ²			
 for auxiliary conta 		15					
 Ior adxillary conta — solid or stra 			2 × (0 5 1 5	mm^2) $2x (0.75)$	2,5 mm²), max. 2x (0,75	(1 mm^2)	
	d connectable conduct	or cross	2X (0,5 1,5	11111 ⁻), 2X (0,75	2,5 mm ⁻), max. 2x (0,75	4 11111 ⁻)	
section							
 for auxiliary containing 	acts		18 14				
Safety related data							
product function							
 mirror contact ac 	cording to IEC 60947-4-	1	Yes				
	operation according to IE		No				
B10 value with high der	nand rate according to S	N 31920	1 000 000				
	nterval or service life acc		20 a				
	the front according to	IEC 60529	IP00: IP20 wi	th box terminal/co	over		
-	e front according to IE		IP00; IP20 with box terminal/cover finger-safe, for vertical contact from the front with box terminal/cover				
suitability for use			;,,				
 safety-related sw 	itching on		Yes				
 safety-related sw 	-		Yes				
Certificates/ approvals			103				
General Product App	Confirmation	KC		EAC		Safety/Safety of Ma chinery <u>Type Examination Cer</u> <u>tificate</u>	
Declaration of Confor	mity	Test Certificat	es		Marine / Shipping		
UK CA	C C EG-Konf.	<u>Type Test Certific-</u> <u>Special Test Certi</u> ates/Test Report <u>ate</u>			ABS	PRS	
Marine / Shipping	other				Railway		
RMRS	<u>Confirmation</u>	<u>Miscellaneo</u>	<u>us Miscellaneous</u>	Vibration and Shock	Special Test Certific ate		
https://press.siemens.co	to exit the Russian ma om/global/en/pressreleas n the renewal of the cu	se/siemens-wind-do	ates.				
Please contact your loc	al Siemens office on the ther than the sanctioned	status of validity of	the EAC certific		d to import or offer to sup	ply these products to ar	

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=3RT1054-8AR38-0PR0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-8AR38-0PR0

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

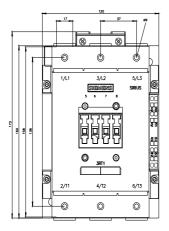
https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-8AR38-0PR0

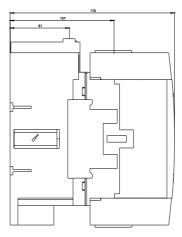
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-8AR38-0PR0&lang=en

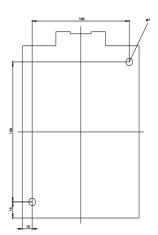
Characteristic: Tripping characteristics, I²t, Let-through current

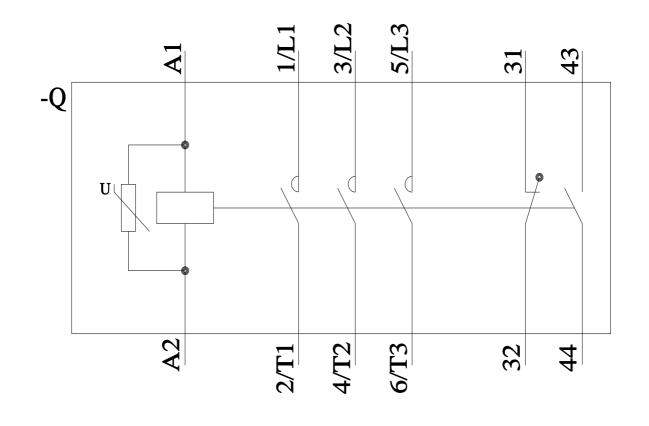
AR38-0PR0/char https://support.industry.siemens.com/cs/ww/en/ps/3RT105

Further characteristics (e.g. electrical endurance, switching frequency) earch&mlfb=3RT1054-8AR38-0PR0&objecttype=14&gridview=view1 http://www.automation.siemens.com/bilddb/index.aspx?view=S









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