SIEMENS

Data sheet

3RT2038-3KB44-3MA0



power contactor, AC-3e/AC-3, 80 A, 37 kW / 400 V, 3-pole, 24 V DC, 0.8-1.2* Us, with integrated varistor, auxiliary contacts: 2 NO + 2 NC, main circuit: screw terminal, control and auxiliary circuit: spring-loaded terminal, size: S2, suitable for PLC outputs, captive auxiliary switch

product brain dname SIRUS product designation Coupling contactor product designation SIRT2 Central technical data Size of contactor size of contractor Size of instactor Size • auxilary switch No • auxilary switch No • at AC in hot operating state 17.1 W • at AC in hot operating state per pole 5.7 W • without load current share typical 1 W Insulator voitage 690 V • of auxilary circuit with degree of pollution 3 rated value 690 V • of auxilary circuit rated value 680 V • of auxilary circuit rated value 6 kV • of contactor keistance at rectangular impulse 6 kV • at DC 6.1g / 5 ms. 3.7g / 10 ms shock resistance with side detectonically optimized 5 000 000 • of the contactor kine addet auxilary switch block typical 10 0000 000 • of the		
product type designation 3RT2 Ceneral technical data	•	
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size of contactor S2 product extension No • unction module for communication No • auxiliary switch No power loss [W] for rated value of the current 17.1 W • at AC in hot operating state 17.1 W • at AC in hot operating state 5.7 W • without load current share typical 1 W insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 600 V • of main circuit ated value 6 kV • of main circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • of contactor score for protective separation between 6.1g / 5 ms, 3.7g / 10 ms machancel service life (operating cycles) 10 000 vo • of contactor typical 10 000 000 • of contactor typical 10 000 000 • of the contactor typical 10 000 000 • of the contactor typical state-2 0 Substance Prohibitance (Date) 10001/2014 </td <td></td> <td>3RT2</td>		3RT2
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• 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) 10/01/2014 Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • during operation -25 +60 °C • during storage -55 +80 °C relative humidity minimum 10 % Main circuit 95 %	mechanical service life (operating cycles)	
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Substance Prohibitance (Date) 10/01/2014 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • 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 %	 of the contactor with added auxiliary switch block typical 	10 000 000
Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • 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	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • 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	Substance Prohibitance (Date)	10/01/2014
ambient temperature -25 +60 °C • 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	Ambient conditions	
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• during storage -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum 95 % Main circuit	ambient temperature	
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relative humidity at 55 °C according to IEC 60068-2-30 95 % Main circuit 95 %	during storage	-55 +80 °C
maximum Main circuit	relative humidity minimum	10 %
		95 %
number of poles for main current circuit 3	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
 at AC-3e rated value maximum 	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated	90 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	90 A
— up to 690 V at ambient temperature 60 °C rated	80 A
value	
• at AC-3	
— at 400 V rated value	80 A
— at 500 V rated value	80 A
— at 690 V rated value	58 A
• at AC-3e	
— at 400 V rated value	80 A
— at 500 V rated value	80 A
— at 690 V rated value	58 A
at AC-4 at 400 V rated value	55 A
at AC-5a up to 690 V rated value	79.2 A
 at AC-5b up to 400 V rated value at AC-6a 	66.4 A
	70 A
— up to 230 V for current peak value n=20 rated value	
 — up to 400 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value 	70 A 70 A
— up to 500 V for current peak value n=20 rated value	58 A
• at AC-6a	50 A
 up to 230 V for current peak value n=30 rated value 	46.7 A
— up to 200 V for current peak value n=30 rated value	46.7 A
— up to 500 V for current peak value n=30 rated value	46.7 A
— up to 690 V for current peak value n=30 rated value	46.7 A
minimum cross-section in main circuit at maximum AC-1 rated	35 mm ²
value	
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	30 A
at 690 V rated value	24 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	55 A
— at 60 V rated value	23 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 60 V rated value	45 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 60 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 	

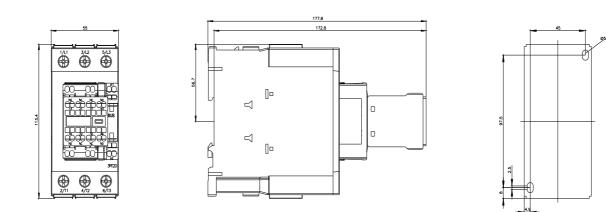
— at 24 V rated value	35 A			
— at 60 V rated value	6 A			
— at 220 V rated value	1 A			
— at 440 V rated value	0.1 A			
— at 600 V rated value	0.06 A			
 with 2 current paths in series at DC-3 at DC-5 				
— at 24 V rated value	55 A			
— at 60 V rated value	45 A			
— at 110 V rated value	25 A			
— at 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 60 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	37 kW			
• at AC-3				
— at 230 V rated value — at 400 V rated value	22 kW 37 kW			
— at 500 V rated value	37 kW			
— at 690 V rated value	45 kW			
• at AC-3e				
— at 230 V rated value	22 kW			
— at 400 V rated value	37 kW			
— at 500 V rated value	37 kW			
— at 690 V rated value	45 kW			
operating power for approx. 200000 operating cycles at AC- 4				
at 400 V rated value	15.8 kW			
• at 690 V rated value	21.8 kW			
operating apparent power at AC-6a				
• up to 230 V for current peak value n=20 rated value	27.8 kVA			
	48.4 kVA			
up to 400 V for current peak value n=20 rated value	60.6 kVA			
• up to 500 V for current peak value n=20 rated value				
up to 690 V for current peak value n=20 rated value	69.3 kVA			
operating apparent power at AC-6a	19 6 10/0			
up to 230 V for current peak value n=30 rated value	18.6 kVA			
• up to 400 V for current peak value n=30 rated value	32.3 kVA			
up to 500 V for current peak value n=30 rated value	40.4 kVA			
up to 690 V for current peak value n=30 rated value	55.8 kVA			
short-time withstand current in cold operating state up to 40 °C				
 limited to 1 s switching at zero current maximum 	1 298 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 5 s switching at zero current maximum 	898 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 3 switching at zero current maximum 	640 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 	414 A; Use minimum cross-section acc. to AC-1 rated value			
 Imited to 50's switching at zero current maximum Imited to 60's switching at zero current maximum 	333 A; Use minimum cross-section acc. to AC-1 rated value			
no-load switching frequency	See 7, See minimum cross-section acc. to AC-11dee Value			
• at DC	1 500 1/h			
operating frequency	700.4/b			
• at AC-1 maximum	700 1/h			
• at AC-2 maximum	350 1/h			
• at AC-3 maximum	500 1/h			
• at AC-3e maximum	500 1/h			
• at AC-4 maximum	150 1/h			
Control circuit/ Control				

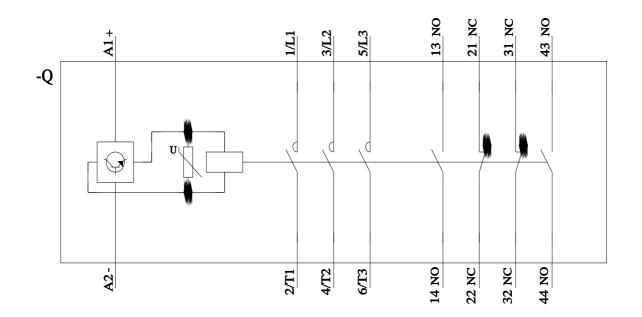
type of voltage of the control supply voltage	DC
control supply voltage at DC	
rated value	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.8
• full-scale value	1.2
design of the surge suppressor	with varistor
inrush current peak	2.6 A
duration of inrush current peak	- 50 μs
locked-rotor current mean value	0.9 A
locked-rotor current peak	2.1 A
duration of locked-rotor current	230 ms
holding current mean value	40 mA
closing power of magnet coil at DC	21.5 W
holding power of magnet coil at DC	1 W
closing delay	
• at DC	35 80 ms
opening delay	30 55 ms
• at DC	30 55 ms
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	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
 at 230 V rated value 	6 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	6 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 UL/CSA ratings	1 faulty switching per 100 million (17 V, 1 mA)
full-load current (FLA) for 3-phase AC motor	65 A
at 480 V rated value	65 A
at 600 V rated value	62 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	5 hp
— at 230 V rated value	15 hp
• for 3-phase AC motor	
— at 200/208 V rated value	20 hp
— at 220/230 V rated value	25 hp

— at 460/480 V rated value	50 hp
— at 575/600 V rated value	60 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: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)
 — with type of assignment 2 required 	gG: 160A (690V,100kA), aM: 80A (690V,100kA), BS88: 125A (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 DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	114 mm
width	55 mm
depth	178 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 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 or stranded 	2x (1 35 mm²), 1x (1 50 mm²)
 finely stranded with core end processing 	2x (1 25 mm²), 1x (1 35 mm²)
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 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 	
— 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)
 for AWG cables for auxiliary contacts 	2x (20 14)
AWG number as coded connectable conductor cross section	
	10 1
for main contacts	18 1
for auxiliary contacts Safety related data	20 14
Safety related data	
product function	

	ccording to IEC 60947-4-1 operation according to IE		Yes			
. ,			No 1 000 000			
B10 value with high demand rate according to SN 31920 proportion of dangerous failures			1 000 000			
		920	40 %			
 with low demand rate according to SN 31920 with high demand rate according to SN 31920 		40 % 73 %				
			100 FIT			
failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC		20 a				
61508 protection class IP on the front according to IEC 60529			IP20			
touch protection on t	he front according to IE	C 60529	finger-safe, for vertical contact	ct from the front		
suitability for use						
 safety-related sv 	•		Yes			
Certificates/ approvals						
General Product App	oroval					
		<u>Confirmation</u>		KC	EHC	
EMC	Functional Safety/Safety of Ma- chinery	Declaration of	Conformity	Test Certificates		
RCM	<u>Type Examination Cer-</u> tificate	UK CA	CE EG-Konf.	<u>Special Test Certific-</u> <u>ate</u>	Type Test Certific- ates/Test Report	
Marine / Shipping						
ABS	BUREAU VERITAS		Lloyd's Register us	PRS	RINA	
Marine / Shipping	other	Railway	Environment			
RMRS RMRS	<u>Confirmation</u>	Vibration and S	nock Environmental Con- firmations			
urther information						
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