SIEMENS

Data sheet

3RT2027-2KG40



power contactor, AC-3e/AC-3, 32 A, 15 kW / 400 V, 3-pole, 125 V DC, 0.7-1.25* Us, with plugged-in varistor, auxiliary contacts: 1 NO + 1 NC, spring-loaded terminal, size: S0, suitable for PLC outputs, not expandable with auxiliary switch

product brand name	SIRIUS
product designation	Coupling contactor
product type designation	3RT2
General technical data	
size of contactor	SO
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 	6.3 W
 at AC in hot operating state per pole 	2.3 W
 without load current share typical 	4.5 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
 of auxiliary circuit with degree of pollution 3 rated value 	690 V
surge voltage resistance	
 of main circuit rated value 	6 kV
 of auxiliary circuit rated value 	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 7,5g / 10 ms
shock resistance with sine pulse	
at DC	15g / 5 ms, 10g / 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)	10/01/2009
SVHC substance name	Lead - 7439-92-1
Weight	0.6 kg
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	95 %

Environmental Product Decisional Proj Yes Environmental Product Decisional Proj Yes global warming potential (CO2 eq during reamfacturing global warming potential (CO2 eq during global warming potential (CO2 eq during global warming potential (CO2 eq during reamfacturing global warming potential (CO2 eq during reamfacturing global warming potential	maximum	
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up to 690 V for current peak value n=30 rated value18 Aminimum cross-section in main circuit at maximum AC-1 rated value10 mm²operational current for approx. 200000 operating cycles at AC-412 A• at 400 V rated value12 A• at 690 V rated value12 Aoperational current • at 1 current path at DC-112 A	 — up to 400 V for current peak value n=30 rated value 	20.5 A
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- 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 35 A - at 600 V rated value 35 A - at 110 V rated value 35 A - at 220 V rated value 5 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 35 A - at 60 V rated value 35 A - at 110 V rated value 35 A - at 220 V rated value 5 A		
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at 60 V rated value35 A at 110 V rated value35 A at 220 V rated value5 A	-	35 A
at 110 V rated value35 A at 220 V rated value5 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	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 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	20 A
— at 60 V rated value	5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 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	35 A
— at 60 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 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	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
operating power	
• at AC-2 at 400 V rated value	15 kW
• at AC-3	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
• at AC-3e	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
operating power for approx. 200000 operating cycles at AC-	
4	
• at 400 V rated value	6 kW
• at 690 V rated value	10.3 kW
operating apparent power at AC-6a	
 up to 230 V for current peak value n=20 rated value 	12.2 kVA
 up to 400 V for current peak value n=20 rated value 	21.3 kVA
 up to 500 V for current peak value n=20 rated value 	23.3 kVA
 up to 690 V for current peak value n=20 rated value 	25 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	8.1 kVA
 up to 400 V for current peak value n=30 rated value 	14.2 kVA
 up to 500 V for current peak value n=30 rated value 	15.5 kVA
 up to 690 V for current peak value n=30 rated value 	21.5 kVA
short-time withstand current in cold operating state up to	
40 °C	
 limited to 1 s switching at zero current maximum 	499 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	341 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	260 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	199 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	162 A; Use minimum cross-section acc. to AC-1 rated value

no lood quitabing frequency	
no-load switching frequency • at DC	1 500 1/h
operating frequency	1 500 1/1
• at AC-1 maximum	1 000 1/h
• at AC-1 maximum	750 1/h
• at AC-3 maximum	750 1/h
• at AC-3e maximum	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	125 V
operating range factor control supply voltage rated value of magnet coil at DC	
initial value	0.7
full-scale value	1.25
design of the surge suppressor	with varistor
closing power of magnet coil at DC	4.5 W
holding power of magnet coil at DC	4.5 W
closing delay	
• at DC	52 270 ms
opening delay	
• at DC	19 21 ms
arcing time	10 10 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
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	3A
at 125 V rated value	2 A
at 125 v rated value at 220 V rated value	1A
at 220 v rated value at 600 V rated value	0.15 A
	0.10 A
operational current at DC-13	10.4
at 24 V rated value	10 A
at 48 V rated value	2 A 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	27 A
● at 600 V rated value	27 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	2 hp
— at 230 V rated value	5 hp
 for 3-phase AC motor 	

-+ 000/000 \ / _ / _ \	
- at 200/208 V rated value	10 hp
- at 220/230 V rated value	10 hp
- at 460/480 V rated value	20 hp
at 575/600 V rated value	25 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	C obstractoristic: 10 A: 0.4 kA
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
design of the fuse link	
 for short-circuit protection of the main circuit 	
- with type of coordination 1 required	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)
- with type of assignment 2 required	gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (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 side-by-side mounting	Yes
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	102 mm 45 mm
depth	45 mm 107 mm
required spacing	
with side-by-side mounting	
 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 	spring-loaded 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	2x (1 10 mm²)
— solid or stranded	2x (1 10 mm ²)
 finely stranded with core end processing 	2x (1 6 mm ²)
— finely stranded without core end processing	2x (1 6 mm ²)
for AWG cables for main contacts	2x (18 8)
connectable conductor cross-section for main contacts	4 40 mm2
• solid	1 10 mm ²
stranded	1 10 mm ²
 finely stranded with core end processing finally stranded without core and processing 	1 6 mm ²
finely stranded without core end processing	1 6 mm²
connectable conductor cross-section for auxiliary contacts	0.5 2.5 mm ²
solid or stranded finally stranded with core and processing	0.5 2.5 mm ²
 finely stranded with core end processing finely stranded without core and processing 	0.5 1.5 mm² 0.5 2.5 mm²
finely stranded without core end processing type of connectable conductor cross-sections	0.0 2.0 11111
 for auxiliary contacts 	

— solid or stra	nded		2x (0 5	5 2.5 mm²)		
	led with core end process	ling		5 1.5 mm²)		
	led without core end process	°,	2x (0.5 2.5 mm ²)			
-	or auxiliary contacts	essing	2x (0.5 2x (20			
	d connectable conducto	or cross	28 (20	14)		
 for main contacts 			18 8	3		
 for auxiliary conta 			20 1			
Safety related data	1013		20 1			
product function						
	cording to IEC 60947-4-1		Yes			
	operation according to IEC	C 60947-5-1	No			
 suitable for safety 		00947-0-1	Yes			
suitability for use safety			Yes			
service life maximum	-related switching OFF		20 a			
	oo lifo nooccorry		Yes			
test wear-related servi			res			
proportion of dangero		20	40.0/			
	rate according to SN 319		40 %			
	a rate according to SN 31		73 %			
	emand rate according to		1 000 (
failure rate [FIT] with 1	ow demand rate accord	ing to SN	100 FI	1		
ISO 13849						
device type according	to ISO 13849-1		3			
	ording to ISO 13849-2 n	ecessary	Yes			
IEC 61508		loocooury	100			
safety device type acc	ording to IEC 61508-2		Туре А	7		
Electrical Safety			Type7	,		
	the front according to I	EC 60529	IP20			
-	e front according to IEC			safe, for vertical contac	t from the front	
-		00323	iniger-			
Atototico valis Uterritticaties						
Approvals Certificates	oval	_			_	
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General Product Appr	CE	UK CA Test Certificate	1	Confirmation	UL UL Marine / Shipping	KC
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General Product Appr CCC General Product Approval	CE EG-Konf.	CA Test Certificate Special Test Ce	es	Type Test Certific-	UL UL Marine / Shipping	KC
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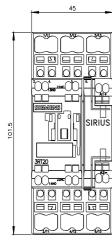
Information on the packaging https://support.industry.siemens.com/cs/ww/en/view/109813875 Information- and Downloadcenter (Catalogs, Brochures,...) https://www.siemens.com/ic10 Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2027-2KG40 Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-2KG40 Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2KG40 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-2KG40&lang=en

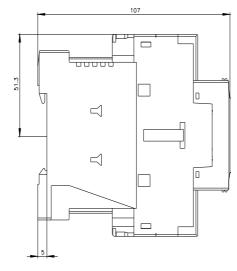
Characteristic: Tripping characteristics, I²t, Let-through current

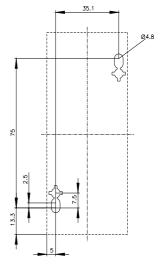
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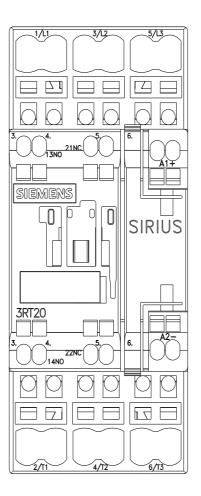
Further characteristics (e.g. electrical endurance, switching frequency)

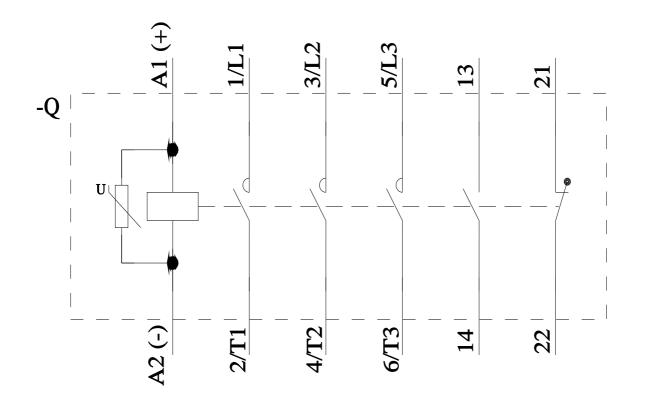
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