SIEMENS

Data sheet 3RT2035-3KB40



power contactor, AC-3 40 A, 18.5 kW / 400 V 1 NO + 1 NC, 24 V DC with varistor, 3-pole, Size S2, Spring-type terminal Suitable for 2 A PLC outputs

product brand name	SIRIUS
product designation	Coupling 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
• per pole	2.2 W
power loss [W] for rated value of the current without load current share typical	1 W
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 safe isolation between coil and main contacts acc. to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	7.7g / 5 ms, 4.5g / 10 ms
shock resistance with sine pulse	
• at DC	12g / 5 ms, 7g / 10 ms
mechanical service life (switching 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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.10.2014
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 acc. to IEC 60068-2-30	95 %

maximum	
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
operational current	
at AC-1 at 400 V at ambient temperature 40 °C	60 A
rated value	
• 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 rated value 	36.5 A
— 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
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	22 A
• at 690 V rated value	18.5 A
operational 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	1A
— at 600 V rated value	0.8 A
with 3 current paths in series at DC-1	0.071
— at 24 V rated value	55 A
	55 A
— at 110 V rated value	
— 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 110 V rated value	2.5 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 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 power 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 power 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		
Iimited 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 DC	1 500 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	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	

decian of the cures are	with variator	
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		
• 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	1	
instantaneous contact		
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	3 A	
at 175 V rated value at 125 V rated value	2 A	
at 123 V rated value at 220 V rated value	1A	
at 600 V rated value	0.15 A	
	0.15 A	
operational current at DC-13	40 A	
• 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 3-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 	3 hp	
— at 230 V rated value	7.5 hp	
 for 3-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 / P600	
Short-circuit protection		
design of the fuse link		
for short-circuit protection of the main circuit		
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— with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required	gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA) gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA) 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 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	O THIN	
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)	
at AWG cables for main contacts	2x (18 2), 1x (18 1)	
connectable conductor cross-section for main		
contacts	4 05 mm²	
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 with core end processing finely stranded without core end processing	0.5 2.5 mm²	
type of connectable conductor cross-sections	0.5 2.3 Hilli	
for auxiliary contacts		
— solid or stranded		
- Solid of Stratitied	2v (0.5 2.5 mm²)	
finally atranded with core and processing	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 1.5 mm²) 2x (0.5 2.5 mm²)	
— finely stranded without core end processing• at AWG cables for auxiliary contacts	2x (0.5 1.5 mm²)	
— finely stranded without core end processing • at AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)	
— finely stranded without core end processing • at AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section • for main contacts	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)	
— finely stranded without core end processing • at AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section • for main contacts • for auxiliary contacts	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)	
— finely stranded without core end processing • at AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section • for main contacts	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)	

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	
T1 value for proof test interval or service life acc. to IEC 61508	20 y	
protection class IP on the front acc. to IEC 60529	IP20	
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front	
suitability for use		
 safety-related switching OFF 	Yes	
A 1181		

Certificates/ approvals

General Product Approval





Confirmation



<u>KC</u>



Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates
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Type Examination Certificate UK Declaration of Conformity



Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping other Railway



Confirmation

Vibration and Shock

Further information

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=3RT2035-3KB40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2035-3KB40

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-3KB40

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

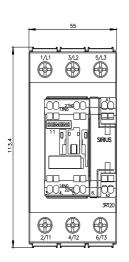
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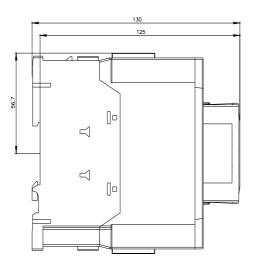
Characteristic: Tripping characteristics, I2t, Let-through current

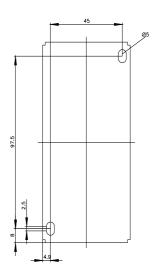
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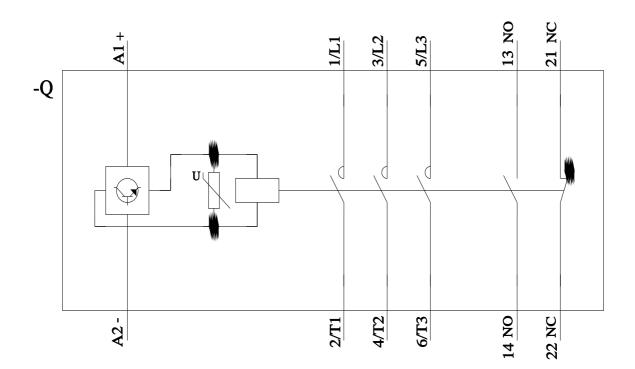
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2035-3KB40&objecttype=14&gridview=view1









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