Data sheet

Power contactor, AC-3 65 A, 30 kW / 400 V 1 NO + 1 NC 24 V DC, 0.7-1.25* Us with varistor 3-pole, size S2 screw terminals



Figure similar

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	Yes
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
Protection class IP	
• on the front	IP20
of the terminal	IP00
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 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	
• maximum	2 000 m
Ambient temperature	
 during operation 	-40 +70 °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	
— rated value	80 A
— at ambient temperature 40 °C rated value	80 A
● at AC-1	
— up to 690 V at ambient temperature 40 $^{\circ}$ C rated value	80 A
— up to 690 V at ambient temperature 60 °C rated value	70 A
• at AC-2 at 400 V rated value	65 A
• at AC-3	
— at 400 V rated value	65 A
— at 500 V rated value	65 A
-t 000 \ /t- d l	47 A
— at 690 v rated value	47.7
— at 690 V rated value● at AC-4 at 400 V rated value	55 A

Connectable conductor cross-section in main circuit at AC-1	
at 60 °C minimum permissible	25 mm²
• at 40 °C minimum permissible	25 mm²
Operating current for approx. 200000 operating	
cycles at AC-4	
• at 400 V rated value	28 A
• at 690 V rated value	22 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
Operating current	
• 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-1	
— at 230 V at 60 °C rated value	26 kW
— at 400 V rated value	53 kW
— at 400 V at 60 °C rated value	46 kW
— at 690 V at 60 °C rated value	79 kW
• at AC-2 at 400 V rated value	30 kW
• at AC-3	
— at 230 V rated value	18.5 kW
— at 400 V rated value	30 kW
— at 500 V rated value	37 kW
— at 690 V rated value	37 kW
Operating power for approx. 200000 operating cycles	
at AC-4	
• at 400 V rated value	14.7 kW
• at 690 V rated value	20 kW
Thermal short-time current limited to 10 s	520 A
Power loss [W] at AC-3 at 400 V for rated value of	3.8 W
the operating current per conductor	
No-load switching frequency	
No-load switching frequency	
• at DC	1 500 1/h
	1 500 1/h
• at DC	1 500 1/h
• at DC Ratings for railway applications	80 A
at DC Ratings for railway applications Thermal current (Ith) up to 690 V up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value	
at DC Ratings for railway applications Thermal current (Ith) up to 690 V up to 40 °C according to IEC 60077 rated value	80 A
at DC Ratings for railway applications Thermal current (Ith) up to 690 V up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Connectable conductor cross-section in main circuit up to 40 °C according to IEC 60077 rated value	80 A
at DC Ratings for railway applications Thermal current (Ith) up to 690 V up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Connectable conductor cross-section in main circuit up to 40 °C according to IEC 60077 rated value minimum permissible	80 A 60 A 25 mm ²
at DC Ratings for railway applications Thermal current (Ith) up to 690 V up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Connectable conductor cross-section in main circuit up to 40 °C according to IEC 60077 rated value	80 A 60 A
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• Full-scale value	1.25
Design of the surge suppressor	with varistor
Inrush current peak	
● at 24 V	3.3 A
Duration of inrush current peak	
● at 24 V	15 µs
Closing power of magnet coil at DC	23 W
Holding power of magnet coil at DC	1 W
Closing delay	
• at DC	45 60 ms
Opening delay	
• at DC	35 55 ms
Arcing time	10 20 ms
Control version of the switch operating mechanism	Standard A1 - A2
Residual current of the electronics for control with signal <0>	
• at DC at 24 V maximum permissible	20 mA
Auxiliary circuit	

Auxiliary circuit	
Number of NC contacts for auxiliary contacts	1
• instantaneous contact	1
Number of NO contacts for auxiliary contacts	1
• instantaneous contact	1
Operating current at AC-12 maximum	10 A
Operating 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
Operating 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
Operating 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	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 three-phase AC motor	
• at 480 V rated value	65 A
• at 600 V rated value	52 A
Yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	5 hp
— at 230 V rated value	10 hp
• for three-phase AC motor	
— at 200/208 V rated value	20 hp
— at 220/230 V rated value	20 hp
— at 460/480 V rated value	50 hp
— at 575/600 V rated value	50 hp
Contact rating of auxiliary contacts according to UL	A600 / P600

Short-circuit protection	
Product function Short circuit protection	No
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: 125A (690V,100kA), aM: 63A (690V,100kA), BS88: 100A (415V,80kA)
 for short-circuit protection of the auxiliary switch required 	fuse gG: 10 A

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	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	
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)
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)
 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 driven operation acc. to IEC 60947-5-1
 T1 value for proof test interval or service life acc. to IEC 61508
 Protection against electrical shock
 No
 20 y
 finger-safe when touched vertically from front acc. to IEC 60529

Communication/ Protocol

Product function Bus communication No

Certificates/approvals

General Product Approval

Functional
Safety/Safety
Of Machinery

Declaration of
Conformity









Type Examination

Certificate



Test	Certific-
ates	

Marine / Shipping

aics

Type Test Certificates/Test Report











Marine / Ship- other Railway
ping



Confirmation

Vibration and Shock

Confirmation

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2037-1XB40-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2037-1XB40-0LA2

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

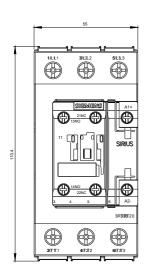
https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-1XB40-0LA2

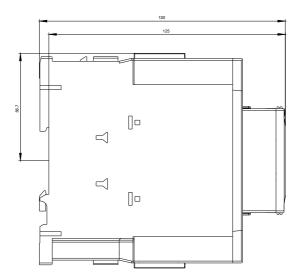
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2037-1XB40-0LA2&lang=en

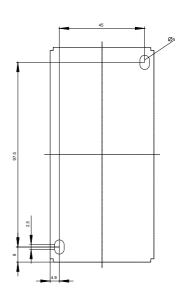
Characteristic: Tripping characteristics, I2t, Let-through current

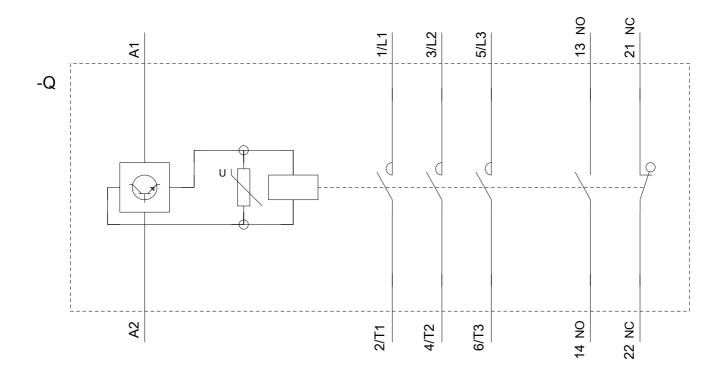
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Further characteristics (e.g. electrical endurance, switching frequency)









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