

Power contactor, AC-3 65 A, 30 kW / 400 V 1 NO + 1 NC, 175-280 V
AC/DC with varistor 3-pole, size S2 screw terminals



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
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 AC	7.7g / 5 ms, 4.5g / 10 ms

• at DC	7.7g / 5 ms, 4.5g / 10 ms
Shock resistance with sine pulse	
• at AC	12g / 5 ms, 7g / 10 ms
• 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-compatible auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	K
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	-25 ... +60 °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	
— at ambient temperature 40 °C rated value	80 A
• at AC-1	
— up to 690 V at ambient temperature 40 °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
— at 690 V rated value	47 A
• at AC-4 at 400 V rated value	55 A
• at AC-5a up to 690 V rated value	70.4 A
• at AC-5b up to 400 V rated value	53.9 A
• at AC-6a	

— up to 230 V at current peak n=20 rated value	56.9 A
— up to 400 V at current peak n=20 rated value	56.9 A
— up to 500 V at current peak n=20 rated value	56.9 A
— up to 690 V at current peak n=20 rated value	47 A
• at AC-6a	
— up to 230 V at current peak n=30 rated value	38 A
— up to 400 V at current peak n=30 rated value	38 A
— up to 500 V at current peak n=30 rated value	38 A
— up to 690 V at current peak n=30 rated value	38 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	25 mm ²
• at 40 °C minimum permissible	25 mm ²
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 rated value	30 kW
— 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 rated value	91 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 the operating current per conductor	3.8 W
No-load switching frequency	

• at AC • at DC	1 500 1/h 1 500 1/h
Operating frequency	
• at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum	800 1/h 400 1/h 700 1/h 200 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 • at 60 Hz rated value	175 ... 280 V 175 ... 280 V
Control supply voltage at DC	
• rated value	175 ... 280 V
Operating range factor control supply voltage rated value of magnet coil at DC	
• initial value • Full-scale value	0.8 1.1
Operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz • at 60 Hz	0.8 ... 1.1 0.8 ... 1.1
Design of the surge suppressor	with varistor
Apparent pick-up power of magnet coil at AC	
• at 50 Hz • at 60 Hz	40 V·A 40 V·A
Apparent holding power of magnet coil at AC	
• at 50 Hz • at 60 Hz	2 V·A 2 V·A
Closing power of magnet coil at DC	23 W
Holding power of magnet coil at DC	1 W
Closing delay	
• at AC • at DC	45 ... 70 ms 45 ... 60 ms
Opening delay	
• at AC • at DC	35 ... 55 ms 35 ... 55 ms
Arcing time	10 ... 20 ms
Residual current of the electronics for control with signal <0>	
• at AC at 230 V maximum permissible • at DC at 24 V maximum permissible	20 mA 20 mA

Auxiliary circuit

Number of NC contacts for auxiliary contacts	
• instantaneous contact	1
Number of NO contacts for auxiliary contacts	
• 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	
Design of the fuse link - for short-circuit protection of the main circuit - with type of coordination 1 required - with type of assignment 2 required - for short-circuit protection of the auxiliary switch required	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA) gG: 125A (690V,100kA), aM: 63A (690V,100kA), BS88: 100A (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
Mounting type Side-by-side mounting	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 Yes
Height	114 mm
Width	55 mm
Depth	130 mm
Required spacing - with side-by-side mounting - forwards - upwards - downwards - at the side - for grounded parts - forwards - upwards - at the side - downwards - for live parts - forwards - upwards - downwards - at the side	10 mm 10 mm 10 mm 0 mm 10 mm 10 mm 6 mm 10 mm 10 mm 10 mm 10 mm 10 mm 6 mm
Connections/Terminals	
Type of electrical connection - for main current circuit - for auxiliary and control current circuit	screw-type terminals screw-type terminals
Type of connectable conductor cross-sections for main contacts	

— single or multi-stranded — finely stranded with core end processing • at AWG conductors for main contacts	2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²) 2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²) 2x (18 ... 2), 1x (18 ... 1)
Connectable conductor cross-section for main contacts • finely stranded with core end processing	1 ... 35 mm ²
Connectable conductor cross-section for auxiliary contacts • single or multi-stranded • finely stranded with core end processing	0.5 ... 2.5 mm ² 0.5 ... 2.5 mm ²
Type of connectable conductor cross-sections • for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • at AWG conductors for auxiliary contacts	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
AWG number as coded connectable conductor cross section • for main contacts • for auxiliary contacts	18 ... 1 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 • with high demand rate acc. to SN 31920	40 % 73 %
Failure rate [FIT] • with low demand rate acc. to SN 31920	100 FIT
Product function • Mirror contact acc. to IEC 60947-4-1 • positively driven operation acc. to IEC 60947-5-1	Yes No
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529

Certificates/approvals

General Product Approval	Functional Safety/Safety of Machinery
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CCC



CSA



UL

[Miscellaneous](#)



[Type Examination Certificate](#)

Declaration of Conformity	Test Certificates	Marine / Shipping
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EG-Konf.

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS



BUREAU VERITAS

Marine / Shipping	other
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LRS



PRS



RINA



RMRS



DNVGL.COM/AF

[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=3RT2037-1NP30>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2037-1NP30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-1NP30>

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

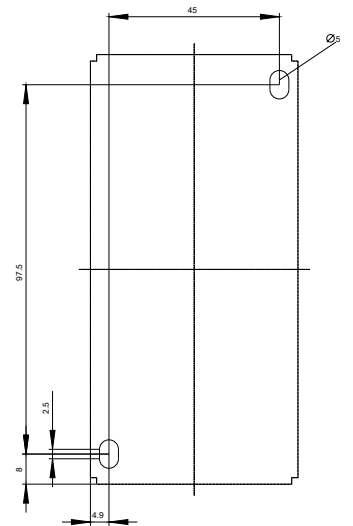
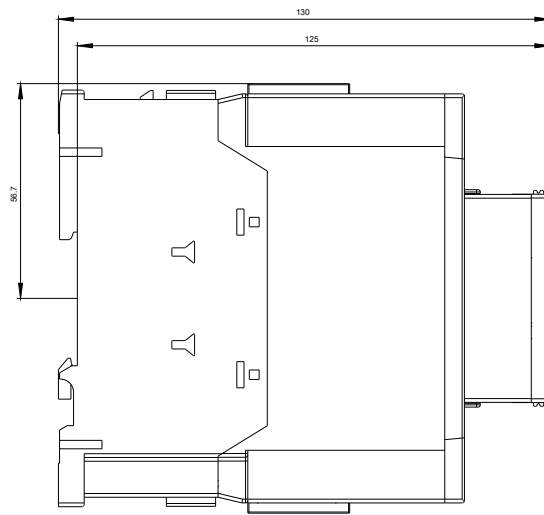
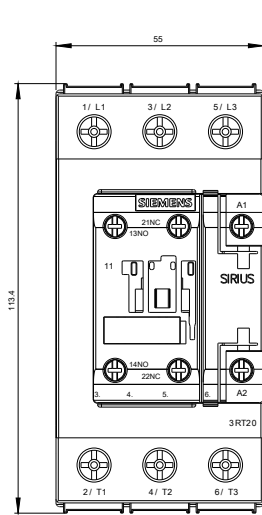
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2037-1NP30&lang=en

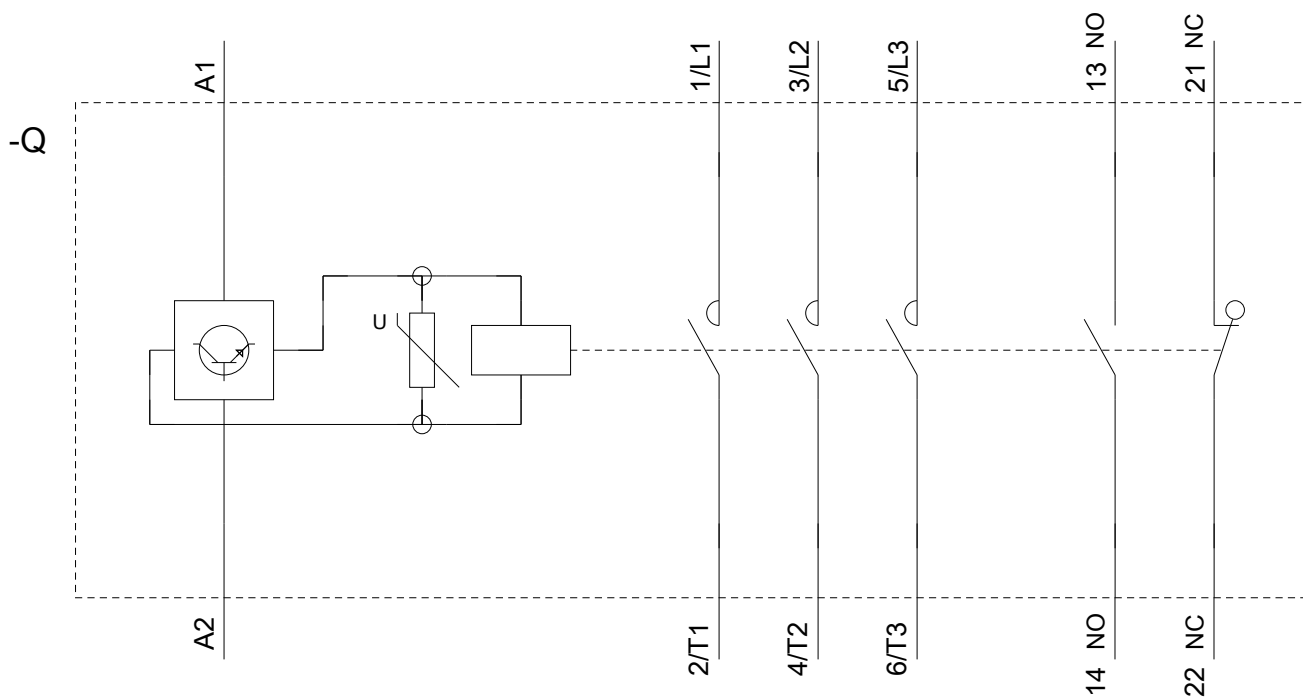
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-1NP30/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2037-1NP30&objecttype=14&gridview=view1>





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