

Power contactor, AC-3 150 A, 75 kW / 400 V AC (50-60 Hz) / DC operation 110-127 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S6 Busbar connections Drive: conventional screw terminal



Product brand name	SIRIUS
Product designation	Power contactor
Product type designation	3RT1
General technical data	
Size of contactor	S6
Product extension	<ul style="list-style-type: none">• function module for communication• Auxiliary switch
Surge voltage resistance	<ul style="list-style-type: none">• of main circuit rated value• of auxiliary circuit rated value
maximum permissible voltage for safe isolation	<ul style="list-style-type: none">• between coil and main contacts acc. to EN 60947-1
Protection class IP	<ul style="list-style-type: none">• on the front• of the terminal
Shock resistance at rectangular impulse	<ul style="list-style-type: none">• at AC

• at DC	8,5g / 5 ms, 4,2g / 10 ms
Shock resistance with sine pulse	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 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
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	1 000 V
Operating current	
• at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	185 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	185 A
— up to 690 V at ambient temperature 60 °C rated value	160 A
— up to 1000 V at ambient temperature 40 °C rated value	90 A
— up to 1000 V at ambient temperature 60 °C rated value	90 A
• at AC-2 at 400 V rated value	150 A
• at AC-3	
— at 400 V rated value	150 A
— at 500 V rated value	150 A
— at 690 V rated value	150 A
— at 1000 V rated value	65 A
• at AC-4 at 400 V rated value	132 A
• at AC-5a up to 690 V rated value	162 A
• at AC-5b up to 400 V rated value	124 A

• at AC-6a	— up to 230 V for current peak value n=20 rated value	148 A
	— up to 400 V for current peak value n=20 rated value	148 A
	— up to 500 V for current peak value n=20 rated value	148 A
	— up to 690 V for current peak value n=20 rated value	148 A
	— up to 1000 V for current peak value n=20 rated value	57 A
• at AC-6a	— up to 230 V for current peak value n=30 rated value	99 A
	— up to 400 V for current peak value n=30 rated value	99 A
	— up to 500 V for current peak value n=30 rated value	99 A
	— up to 690 V for current peak value n=30 rated value	99 A
	— up to 1000 V for current peak value n=30 rated value	57 A
Minimum cross-section in main circuit		
• at maximum AC-1 rated value		95 mm ²
Operating current for approx. 200000 operating cycles at AC-4		
• at 400 V rated value		68 A
• at 690 V rated value		57 A
Operating current		
• at 1 current path at DC-1		
— at 24 V rated value		160 A
— at 110 V rated value		18 A
— at 220 V rated value		3.4 A
— at 440 V rated value		0.8 A
— at 600 V rated value		0.5 A
• with 2 current paths in series at DC-1		
— at 24 V rated value		160 A
— at 110 V rated value		160 A
— at 220 V rated value		20 A
— at 440 V rated value		3.2 A
— at 600 V rated value		1.6 A
• with 3 current paths in series at DC-1		
— at 24 V rated value		160 A

— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	11.5 A
— at 600 V rated value	4 A
Operating current	
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	160 A
— at 110 V rated value	2.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.17 A
— at 600 V rated value	0.12 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
Operating power	
• at AC-1	
— at 230 V at 60 °C rated value	60 kW
— at 400 V rated value	105 kW
— at 400 V at 60 °C rated value	105 kW
— at 690 V rated value	181 kW
— at 690 V at 60 °C rated value	181 kW
— at 1000 V at 60 °C rated value	148 kW
• at AC-2 at 400 V rated value	75 kW
• at AC-3	
— at 230 V rated value	45 kW
— at 400 V rated value	75 kW
— at 500 V rated value	90 kW
— at 690 V rated value	132 kW
— at 1000 V rated value	90 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	38 kW

• at 690 V rated value	55 kW
Thermal short-time current limited to 10 s	1 300 A
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	9 W
No-load switching frequency	
• at AC	2 000 1/h
• at DC	2 000 1/h
Operating frequency	
• at AC-1 maximum	800 1/h
• at AC-2 maximum	300 1/h
• at AC-3 maximum	750 1/h
• at AC-4 maximum	130 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	110 ... 127 V
• at 60 Hz rated value	110 ... 127 V
Control supply voltage at DC	
• rated value	110 ... 127 V
Voltage at PLC-control input rated value	24 V
Operating range factor of the voltage at PLC-control input	0.8 ... 1.1
Operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.8
• Full-scale value	1.1
Operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 ... 1.1
• at 60 Hz	0.8 ... 1.1
Design of the surge suppressor	with varistor
Apparent pick-up power of magnet coil at AC	
• at 50 Hz	300 V·A
Inductive power factor with closing power of the coil	
• at 50 Hz	0.9
Apparent holding power of magnet coil at AC	
• at 50 Hz	5.8 V·A
Inductive power factor with the holding power of the coil	
• at 50 Hz	0.8
Closing power of magnet coil at DC	360 W
Holding power of magnet coil at DC	5.2 W
Closing delay	

• at AC	20 ... 95 ms
• at DC	20 ... 95 ms
Opening delay	
• at AC	40 ... 60 ms
• at DC	40 ... 60 ms
Arcing time	10 ... 15 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
Operating current at AC-12 maximum	10 A
Operating 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
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	156 A
• at 600 V rated value	144 A
Yielded mechanical performance [hp]	
• for single-phase AC motor	

— at 230 V rated value	30 hp
• for three-phase AC motor	
— at 200/208 V rated value	50 hp
— at 220/230 V rated value	60 hp
— at 460/480 V rated value	125 hp
— at 575/600 V rated value	150 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: 355 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 315 A (415 V, 50 kA)
• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
Mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
Mounting type	screw fixing
• Side-by-side mounting	Yes
Height	172 mm
Width	120 mm
Depth	170 mm
Required spacing	
• with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/Terminals	
Type of electrical connection	

<ul style="list-style-type: none"> • for main current circuit • for auxiliary and control current circuit • at contactor for auxiliary contacts • of magnet coil 	Connection bar screw-type terminals Screw-type terminals Screw-type terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • at AWG conductors for main contacts 	4 ... 250 kcmil
Connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> • stranded 	25 ... 120 mm ²
Connectable conductor cross-section for auxiliary contacts	
<ul style="list-style-type: none"> • single or multi-stranded • finely stranded with core end processing 	0.5 ... 4 mm ² 0.5 ... 2.5 mm ²
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid — 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), max. 2x (0.75 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14), 1x 12
AWG number as coded connectable conductor cross section	
<ul style="list-style-type: none"> • for auxiliary contacts 	18 ... 14

Safety related data	
B10 value	
<ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	1 000 000
Product function	
<ul style="list-style-type: none"> • Mirror contact acc. to IEC 60947-4-1 • positively driven operation acc. to IEC 60947-5-1 	Yes No
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	Declaration of Conformity
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CCC



CSA



UL



Type Examination
Certificate



EG-Konf.

Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Miscellaneous](#)



ABS



RMRS

Marine / Shipping	other
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[Confirmation](#)

[Miscellaneous](#)

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=3RT1055-6AF36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1055-6AF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6AF36>

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

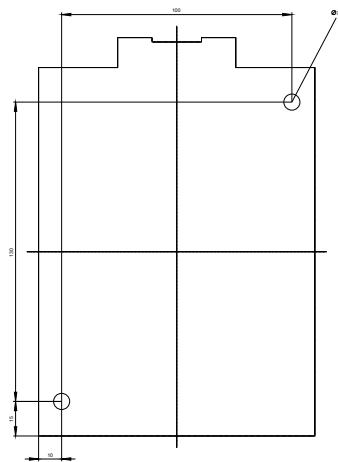
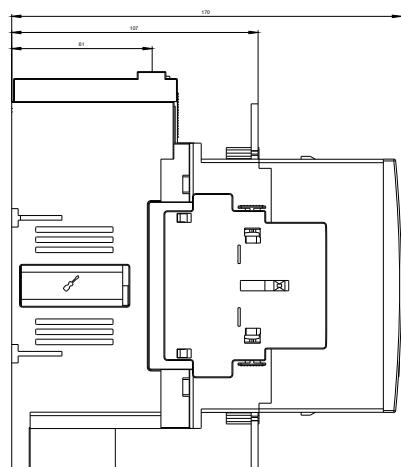
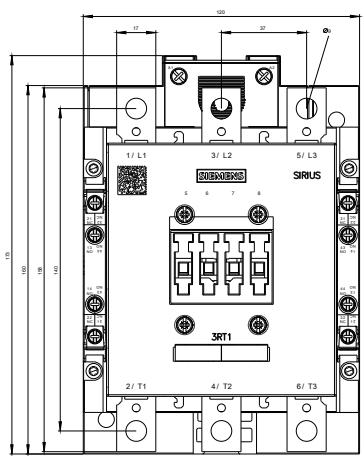
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1055-6AF36&lang=en

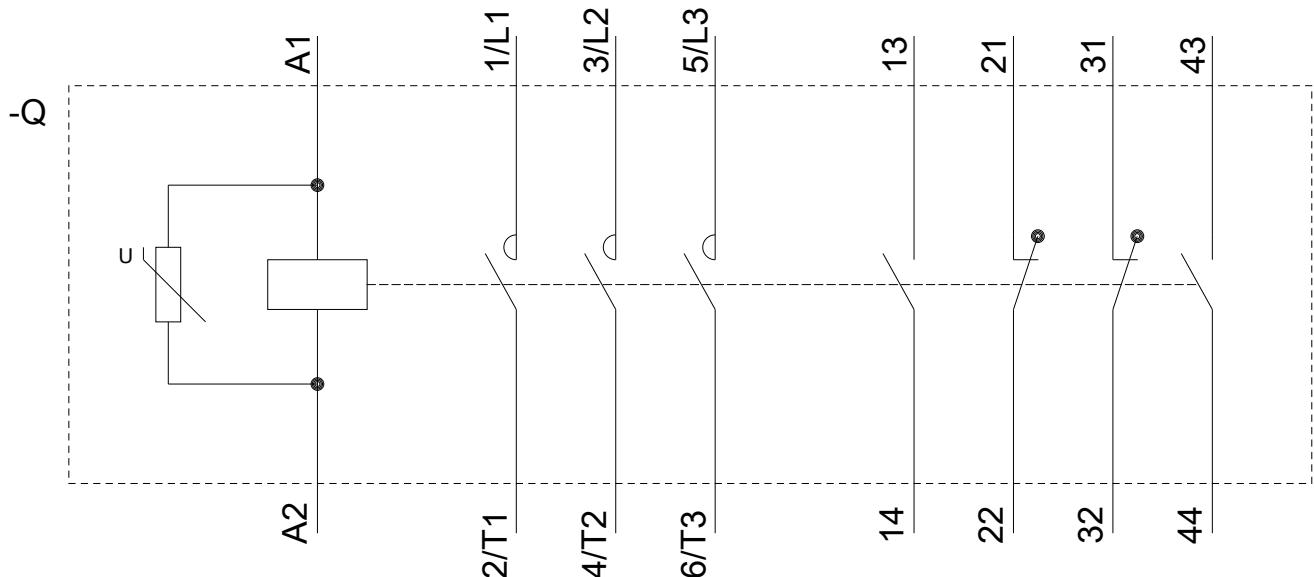
Characteristic: Tripping characteristics, I^{2t} , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6AF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1055-6AF36&objecttype=14&gridview=view1>





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