

Power contactor, AC-3 115 A, 55 kW / 400 V AC (50-60 Hz) / DC operation 220-240 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S6 with box terminals 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 	No
<ul style="list-style-type: none"> Auxiliary switch 	Yes
Surge voltage resistance	
<ul style="list-style-type: none"> of main circuit rated value 	8 kV
<ul style="list-style-type: none"> of auxiliary circuit rated value 	6 kV
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> between coil and main contacts acc. to EN 60947-1 	690 V
Protection class IP	
<ul style="list-style-type: none"> on the front 	IP20; IP20 on the front with cover / box terminal
<ul style="list-style-type: none"> of the terminal 	IP00
Shock resistance at rectangular impulse	
<ul style="list-style-type: none"> at AC 	8,5g / 5 ms, 4,2g / 10 ms

<ul style="list-style-type: none"> • at DC 	8,5g / 5 ms, 4,2g / 10 ms
Shock resistance with sine pulse	
<ul style="list-style-type: none"> • at AC 	13,4g / 5 ms, 6,5g / 10 ms
<ul style="list-style-type: none"> • at DC 	13,4g / 5 ms, 6,5g / 10 ms
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> • of contactor typical 	10 000 000
<ul style="list-style-type: none"> • of the contactor with added electronics-compatible auxiliary switch block typical 	5 000 000
<ul style="list-style-type: none"> • 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

Ambient conditions

Installation altitude at height above sea level	
<ul style="list-style-type: none"> • maximum 	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-25 ... +60 °C
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • at AC-3 rated value maximum 	1 000 V
Operating current	
<ul style="list-style-type: none"> • at AC-1 at 400 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value 	160 A
<ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value — up to 690 V at ambient temperature 60 °C rated value — up to 1000 V at ambient temperature 40 °C rated value — up to 1000 V at ambient temperature 60 °C rated value 	160 A 140 A 80 A 80 A
<ul style="list-style-type: none"> • at AC-2 at 400 V rated value 	115 A
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value 	115 A 115 A 115 A 53 A

Connectable conductor cross-section in main circuit at AC-1	
<ul style="list-style-type: none"> • at 60 °C minimum permissible • at 40 °C minimum permissible 	<p>50 mm²</p> <p>70 mm²</p>
Operating current for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> • at 400 V rated value • at 690 V rated value 	<p>54 A</p> <p>48 A</p>
Operating current	
<ul style="list-style-type: none"> • at 1 current path at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	<p>160 A</p> <p>18 A</p> <p>3.4 A</p> <p>0.8 A</p> <p>0.5 A</p> <p>160 A</p> <p>160 A</p> <p>20 A</p> <p>3.2 A</p> <p>1.6 A</p> <p>160 A</p> <p>160 A</p> <p>160 A</p> <p>11.5 A</p> <p>4 A</p>
Operating current	
<ul style="list-style-type: none"> • at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value 	<p>160 A</p> <p>2.5 A</p> <p>0.6 A</p> <p>0.17 A</p> <p>0.12 A</p> <p>160 A</p> <p>160 A</p> <p>2.5 A</p> <p>0.65 A</p> <p>0.37 A</p> <p>160 A</p>

— 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	53 kW
— at 400 V rated value	92 kW
— at 400 V at 60 °C rated value	92 kW
— at 690 V rated value	159 kW
— at 690 V at 60 °C rated value	159 kW
— at 1000 V at 60 °C rated value	131 kW
• at AC-2 at 400 V rated value	55 kW
• at AC-3	
— at 230 V rated value	37 kW
— at 400 V rated value	55 kW
— at 500 V rated value	75 kW
— at 690 V rated value	110 kW
— at 1000 V rated value	75 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	29 kW
• at 690 V rated value	48 kW
Thermal short-time current limited to 10 s	1 100 A
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	7 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	400 1/h
• at AC-3 maximum	1 000 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	220 ... 240 V
• at 60 Hz rated value	220 ... 240 V
Control supply voltage at DC	
• rated value	220 ... 240 V

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	

<ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	<p>10 A</p> <p>6 A</p> <p>6 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p> <p>0.15 A</p>
Operating current at DC-13 <ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	<p>10 A</p> <p>2 A</p> <p>2 A</p> <p>1 A</p> <p>0.9 A</p> <p>0.3 A</p> <p>0.1 A</p>
Contact reliability of auxiliary contacts	<p>1 faulty switching per 100 million (17 V, 1 mA)</p>

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	<p>124 A</p> <p>125 A</p>
Yielded mechanical performance [hp] <ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 230 V rated value • for three-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value 	<p>25 hp</p> <p>40 hp</p> <p>50 hp</p> <p>100 hp</p> <p>125 hp</p>
Contact rating of auxiliary contacts according to UL	<p>A600 / Q600</p>

Short-circuit protection

Design of the fuse link <ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required 	<p>gG: 355 A (690 V, 100 kA)</p> <p>gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 A (415 V, 50 kA)</p> <p>fuse gG: 10 A</p>
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Installation/ mounting/ dimensions

Mounting position	<p>+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface</p>
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Mounting type	screw fixing
<ul style="list-style-type: none"> • Side-by-side mounting 	Yes
Height	172 mm
Width	120 mm
Depth	170 mm
Required spacing	
<ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — 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 	screw-type terminals screw-type terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — stranded — finely stranded with core end processing — finely stranded without core end processing • at AWG conductors for main contacts 	max. 2x 70 mm ² max. 1x 50, 1x 70 mm ² max. 1x 50, 1x 70 mm ² 2x 1/0
Connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> • stranded 	16 ... 70 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

Safety related data

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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[Type Examination Certificate](#)



Test Certificates	Marine / Shipping	other
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



[Confirmation](#)

other

[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=3RT1054-1AP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-1AP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1AP36>

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

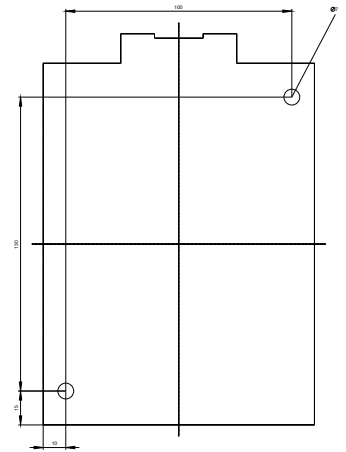
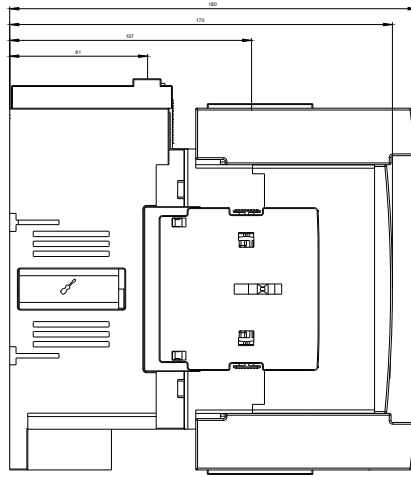
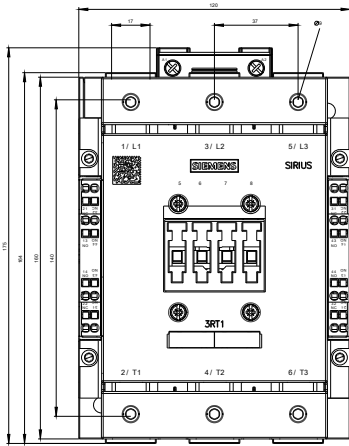
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-1AP36&lang=en

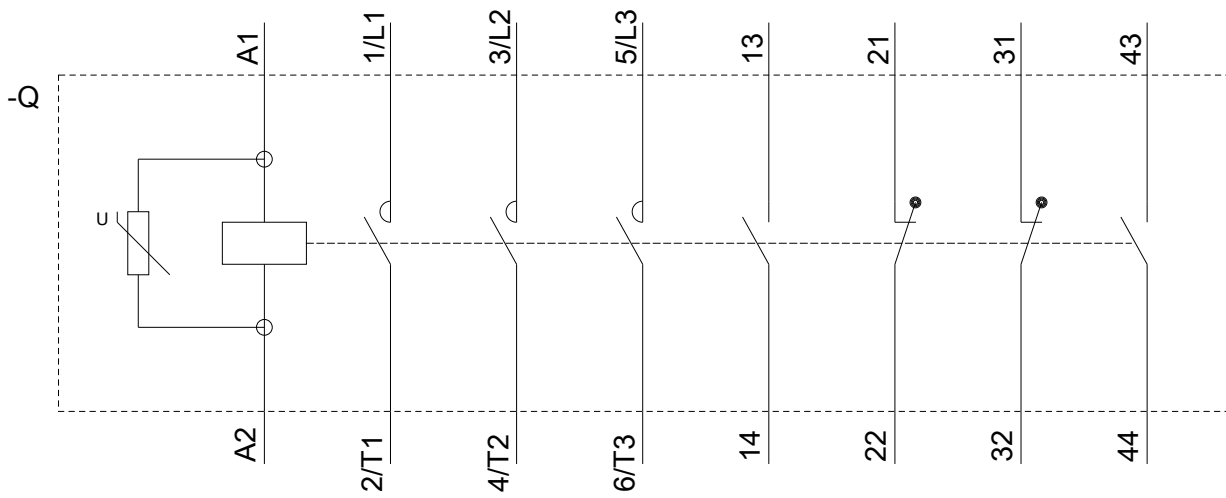
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1AP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-1AP36&objecttype=14&gridview=view1>





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