

Power contactor, AC-3 115 A, 55 kW / 400 V AC (50-60 Hz) / DC operation 200-277 V UC Auxiliary contacts 1 NO + 1 NC 3-pole, Size S6 with box terminals Drive: electronic with PLC / SIMOCODE interface and RLT signal



product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1

General technical data	
Size of contactor	S6
<ul style="list-style-type: none"> Product extension function module for communication 	No
<ul style="list-style-type: none"> product extension auxiliary switch 	Yes
<ul style="list-style-type: none"> power loss [W] for rated value of the current at AC in hot operating state 	21 W
<ul style="list-style-type: none"> power loss [W] for rated value of the current at AC in hot operating state per pole 	7 W
power loss [W] for rated value of the current without load current share typical	2.8 W
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 • of the terminal 	IP20; IP20 on the front with cover / box terminal IP00
Shock resistance at rectangular impulse <ul style="list-style-type: none"> • at AC • at DC 	8,5g / 5 ms, 4,2g / 10 ms 8,5g / 5 ms, 4,2g / 10 ms
Shock resistance with sine pulse <ul style="list-style-type: none"> • at AC • at DC 	13,4g / 5 ms, 6,5g / 10 ms 13,4g / 5 ms, 6,5g / 10 ms
Mechanical service life (switching cycles) <ul style="list-style-type: none"> • of contactor typical • of the contactor with added electronics-compatible auxiliary switch block typical • of the contactor with added auxiliary switch block typical 	10 000 000 5 000 000 10 000 000
reference code acc. to DIN EN 81346-2	Q

Ambient conditions

<ul style="list-style-type: none"> • installation altitude at height above sea level maximum 	2 000 m
<ul style="list-style-type: none"> • ambient temperature during operation • ambient temperature during storage 	-25 ... +60 °C -55 ... +80 °C

Main circuit

number of poles for main current circuit	3
Number of NO contacts for main contacts	3
<ul style="list-style-type: none"> • operating voltage at AC-3 rated value maximum 	1 000 V
<ul style="list-style-type: none"> • Operating current 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"> • Operating current 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"> • Operating current at AC-2 at 400 V rated value • <ul style="list-style-type: none"> — operating current at AC-3 at 400 V rated value 	115 A 115 A

— Operating current at AC-3 at 500 V rated value	115 A
— Operating current at AC-3 at 690 V rated value	115 A
— Operating current at AC-3 at 1000 V rated value	53 A
• Operating current at AC-4 at 400 V rated value	97 A
• Operating current at AC-5a up to 690 V rated value	140 A
• Operating current at AC-5b up to 400 V rated value	95 A
• Operating current at AC-6a	
— up to 230 V for current peak value n=20 rated value	115 A
— up to 400 V for current peak value n=20 rated value	115 A
— up to 500 V for current peak value n=20 rated value	115 A
— up to 690 V for current peak value n=20 rated value	115 A
— up to 1000 V for current peak value n=20 rated value	53 A
• Operating current at AC-6a	
— up to 230 V for current peak value n=30 rated value	98 A
— up to 400 V for current peak value n=30 rated value	98 A
— up to 500 V for current peak value n=30 rated value	98 A
— up to 690 V for current peak value n=30 rated value	98 A
— up to 1000 V for current peak value n=30 rated value	53 A
Minimum cross-section in main circuit	
• at maximum AC-1 rated value	70 mm ²
Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	54 A
• at 690 V rated value	48 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-2 at 400 V rated value	55 kW
•	
— operating power at AC-3 at 230 V rated value	37 kW
— operating power at AC-3 at 400 V rated value	55 kW
— operating power at AC-3 at 500 V rated value	75 kW

— operating power at AC-3 at 690 V rated value	110 kW
— Operating power at AC-3 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
Operating apparent output at AC-6a	
• up to 230 V for current peak value n=20 rated value	40 000 kV·A
• up to 400 V for current peak value n=20 rated value	80 000 V·A
• up to 500 V for current peak value n=20 rated value	100 000 V·A
• up to 690 V for current peak value n=20 rated value	130 000 V·A
• up to 1000 V for current peak value n=20 rated value	90 000 V·A
Operating apparent output at AC-6a	
• up to 230 V for current peak value n=30 rated value	30 000 V·A
• up to 400 V for current peak value n=30 rated value	60 000 V·A
• up to 500 V for current peak value n=30 rated value	80 000 V·A
• up to 690 V for current peak value n=30 rated value	110 000 V·A
• up to 1000 V for current peak value n=30 rated value	90 000 V·A
Short-time withstand current in cold operating state up to 40 °C	
• limited to 1 s switching at zero current maximum	2 565 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 5 s switching at zero current maximum	1 654 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 10 s switching at zero current maximum	1 170 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	729 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	572 A; Use minimum cross-section acc. to AC-1 rated value
No-load switching frequency	
• at AC	1 000 1/h
• at DC	1 000 1/h

• Operating frequency at AC-1 maximum	800 1/h
• Operating frequency at AC-2 maximum	400 1/h
• operating frequency at AC-3 maximum	1 000 1/h
• Operating frequency 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	200 ... 277 V
• control supply voltage at AC at 60 Hz rated value	200 ... 277 V
control supply voltage at DC	
• rated value	200 ... 277 V
Type of PLC-control input acc. to IEC 60947-1	Type 2
Consumed current at PLC-control input acc. to IEC 60947-1 maximum	20 mA
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	280 V·A
Inductive power factor with closing power of the coil	
• at 50 Hz	0.8
Apparent holding power of magnet coil at AC	
• at 50 Hz	4.4 V·A
Inductive power factor with the holding power of the coil	
• at 50 Hz	0.5
Closing power of magnet coil at DC	320 W
Holding power of magnet coil at DC	2.8 W
Closing delay	
• at AC	35 ... 75 ms
• at DC	35 ... 75 ms
Opening delay	
• at AC	80 ... 90 ms

• at DC	80 ... 90 ms
Arcing time	10 ... 15 ms
Control version of the switch operating mechanism	PLC-IN or Standard A1 - A2 (adjustable)
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	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
• operating current at DC-12 at 48 V rated value	6 A
• Operating current at DC-12 at 60 V rated value	6 A
• operating current at DC-12 at 110 V rated value	3 A
• Operating current at DC-12 at 125 V rated value	2 A
• Operating current at DC-12 at 220 V rated value	1 A
• Operating current at DC-12 at 600 V rated value	0.15 A
• Operating current at DC-13 at 24 V rated value	10 A
• operating current at DC-13 at 48 V rated value	2 A
• Operating current at DC-13 at 60 V rated value	2 A
• operating current at DC-13 at 110 V rated value	1 A
• Operating current at DC-13 at 125 V rated value	0.9 A
• Operating current at DC-13 at 220 V rated value	0.3 A
• Operating current at DC-13 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	124 A
• at 600 V rated value	125 A
yielded mechanical performance [hp]	
• for single-phase AC motor — at 230 V rated value	25 hp

<ul style="list-style-type: none"> • 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 	40 hp 50 hp 100 hp 125 hp
contact rating of auxiliary contacts according to UL	A600 / Q600

Short-circuit protection	
<ul style="list-style-type: none"> • 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)
<ul style="list-style-type: none"> • Design of the fuse link for short-circuit protection of the main circuit with type of assignment 2 required 	gG: 250 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 A (415 V, 50 kA)
<ul style="list-style-type: none"> • design of the fuse link for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)

Installation/ mounting/ dimensions	
<ul style="list-style-type: none"> • mounting position 	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
<ul style="list-style-type: none"> • mounting type 	screw fixing
<ul style="list-style-type: none"> • mounting type side-by-side mounting 	Yes
height	172 mm
width	140 mm
depth	170 mm
required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side 	20 mm 10 mm 10 mm 0 mm
<ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards 	20 mm 10 mm 10 mm 10 mm
<ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side 	20 mm 10 mm 10 mm 10 mm

Connections/ Terminals	
<ul style="list-style-type: none"> • type of electrical connection for main current circuit 	box terminal

<ul style="list-style-type: none"> • type of electrical connection for auxiliary and control current circuit • Type of electrical connection at contactor for auxiliary contacts • Type of electrical connection of magnet coil • Type of connectable conductor cross-sections for main contacts stranded • type of connectable conductor cross-sections for main contacts finely stranded with core end processing • type of connectable conductor cross-sections for main contacts finely stranded without core end processing • type of connectable conductor cross-sections at AWG conductors for main contacts 	<p>screw-type terminals</p> <p>Screw-type terminals</p> <p>Screw-type terminals</p> <p>max. 1x 50, 1x 70 mm²</p> <p>max. 1x 50, 1x 70 mm²</p> <p>max. 1x 50, 1x 70 mm²</p> <p>2x 1/0</p>
<p>connectable conductor cross-section for main contacts</p> <ul style="list-style-type: none"> • stranded • finely stranded with core end processing • finely stranded without core end processing 	<p>16 ... 70 mm²</p> <p>16 ... 70 mm²</p> <p>16 ... 70 mm²</p>
<p>connectable conductor cross-section for auxiliary contacts</p> <ul style="list-style-type: none"> • single or multi-stranded • finely stranded with core end processing 	<p>0.5 ... 4 mm²</p> <p>0.5 ... 2.5 mm²</p>
<ul style="list-style-type: none"> • type of connectable conductor cross-sections for auxiliary contacts solid • type of connectable conductor cross-sections for auxiliary contacts single or multi-stranded • type of connectable conductor cross-sections for auxiliary contacts finely stranded with core end processing • type of connectable conductor cross-sections at AWG conductors for auxiliary contacts 	<p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)</p> <p>2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), max. 2x (0,75 ... 4 mm²)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14), 1x 12</p>
<p>AWG number as coded connectable conductor cross section</p> <ul style="list-style-type: none"> • for auxiliary contacts 	<p>18 ... 14</p>
<p>Safety related data</p>	
<p>B10 value</p> <ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	<p>1 000 000</p>
<p>Product function</p> <ul style="list-style-type: none"> • Mirror contact acc. to IEC 60947-4-1 • positively driven operation acc. to IEC 60947-5-1 	<p>Yes</p> <p>No</p>
<p>protection against electrical shock</p>	<p>finger-safe when touched vertically from front acc. to IEC 60529</p>

Suitability for use safety-related switching OFF Yes

Certificates/ approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
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[Type Examination Certificate](#)

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

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



LRS

Marine / Shipping	other	Railway
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RMRS



DNV-GL
DNVGL.COM/AF

[Miscellaneous](#)

[Confirmation](#)

[Special Test Certificate](#)

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=3RT1054-1PP35>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-1PP35>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1PP35>

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

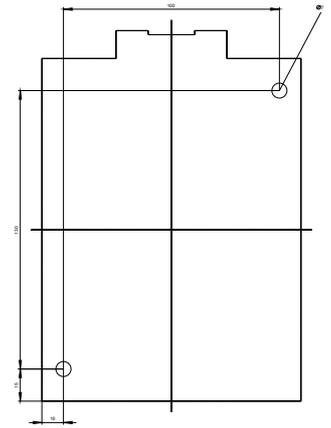
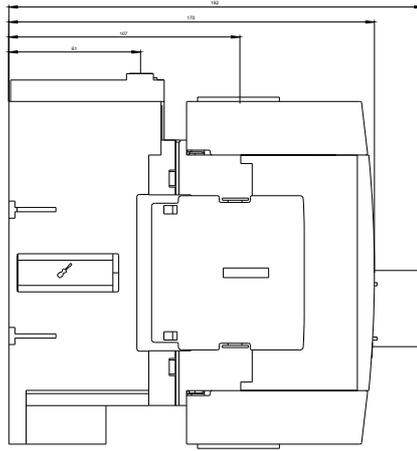
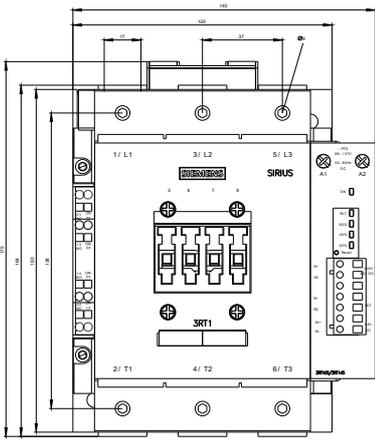
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-1PP35&lang=en

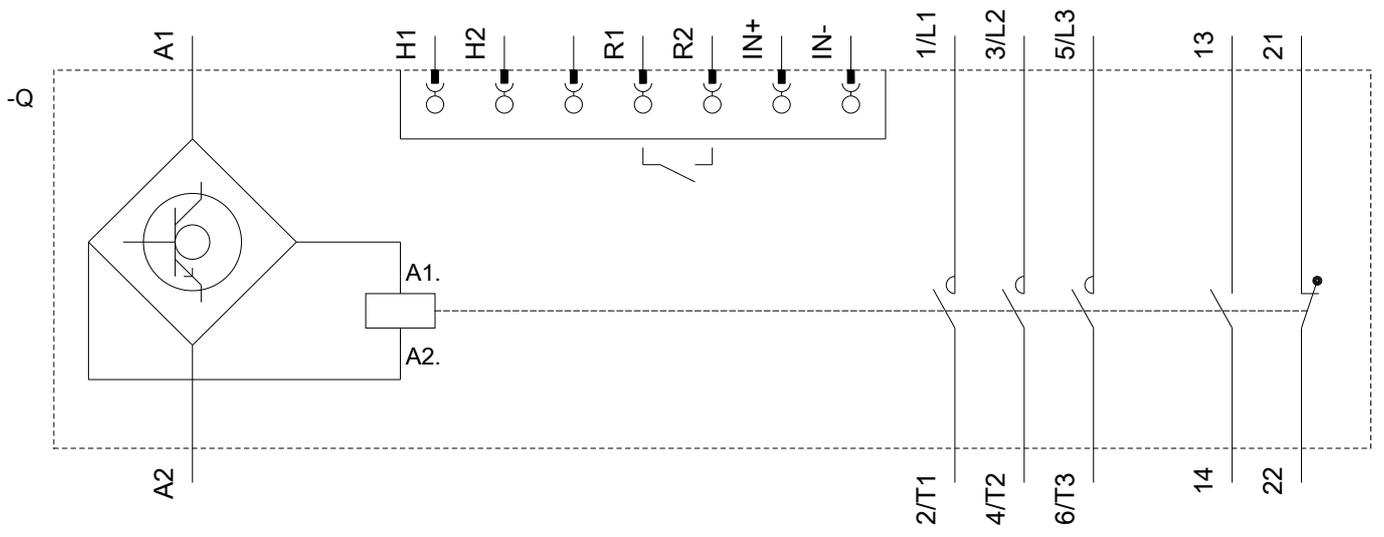
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1PP35/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-1PP35&objecttype=14&gridview=view1>





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