



Power contactor, AC-3 115 A, 55 kW / 400 V AC (50-60 Hz) / DC operation 110-127 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	
• function module for communication	No
• auxiliary switch	Yes
power loss [W] for rated value of the current at AC in hot operating state	21 W
• per pole	7 W
power loss [W] for rated value of the current without load current share typical	5.2 W
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• 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 electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
reference code acc. to IEC 81346-2	Q
Substance Prohibition (Date)	01.05.2012 00:00:00
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
relative humidity minimum	10 %
relative humidity at 55 °C acc. to IEC 60068-2-30	95 %

maximum	
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
operational current	
at AC-1 at 400 V at ambient temperature 40 °C rated value	160 A
- at AC-1 - up to 690 V at ambient temperature 40 °C rated value	160 A
- up to 690 V at ambient temperature 60 °C rated value	140 A
- up to 1000 V at ambient temperature 40 °C rated value	80 A
- up to 1000 V at ambient temperature 60 °C rated value	80 A
- at AC-3 - at 400 V rated value	115 A
- at 500 V rated value	115 A
- at 690 V rated value	115 A
- at 1000 V rated value	53 A
at AC-4 at 400 V rated value	97 A
at AC-5a up to 690 V rated value	140 A
at AC-5b up to 400 V rated value	95 A
- 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
- 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
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	54 A
at 690 V rated value	48 A
operational 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 — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-1 — 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	160 A 20 A 3.2 A 1.6 A 160 A 160 A 160 A 11.5 A 4 A
operational current • at 1 current path at DC-3 at DC-5 — 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 — 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 — 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	 160 A 2.5 A 0.6 A 0.17 A 0.12 A 160 A 160 A 2.5 A 0.65 A 0.37 A 160 A 160 A 160 A 1.4 A 0.75 A
operating power • at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value	 37 kW 55 kW 75 kW 110 kW 75 kW
operating power for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value	29 kW 48 kW
operating apparent power at AC-6a • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 1000 V for current peak value n=20 rated value	40 000 kV·A 80 000 V·A 100 000 V·A 130 000 V·A 90 000 V·A
operating apparent power at AC-6a • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 1000 V for current peak value n=30 rated value	30 000 V·A 60 000 V·A 80 000 V·A 110 000 V·A 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 • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum	2 565 A; Use minimum cross-section acc. to AC-1 rated value 1 654 A; Use minimum cross-section acc. to AC-1 rated value 1 170 A; Use minimum cross-section acc. to AC-1 rated value

• limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum	729 A; Use minimum cross-section acc. to AC-1 rated value 572 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC • at DC	2 000 1/h 2 000 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 1 000 1/h 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 • at 60 Hz rated value	110 ... 127 V 110 ... 127 V
control supply voltage at DC	
• rated value	110 ... 127 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	300 V·A 300 V·A
inductive power factor with closing power of the coil	
• at 50 Hz • at 60 Hz	0.9 0.9
apparent holding power of magnet coil at AC	
• at 50 Hz • at 60 Hz	5.8 V·A 5.8 V·A
inductive power factor with the holding power of the coil	
• at 50 Hz • at 60 Hz	0.8 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 • at DC	20 ... 95 ms 20 ... 95 ms
opening delay	
• at AC • at DC	40 ... 60 ms 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
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value • at 400 V rated value • at 500 V rated value	6 A 3 A 2 A

• at 690 V rated value	1 A
operational 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
operational 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 3-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
• for 3-phase AC motor — at 200/208 V rated value	40 hp
— at 220/230 V rated value	50 hp
— at 460/480 V rated value	100 hp
— at 575/600 V rated value	125 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 — with type of assignment 2 required	gG: 355 A (690 V, 100 kA) gG: 250 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 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
fastening method	screw fixing
• side-by-side mounting	Yes
height	172 mm
width	120 mm
depth	170 mm
required spacing	
• with side-by-side mounting — forwards — upwards — downwards — at the side	20 mm 10 mm 10 mm 0 mm
• for grounded parts — forwards — upwards — at the side — downwards	20 mm 10 mm 10 mm 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 • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil	box terminal screw-type terminals Screw-type terminals Screw-type terminals		
type of connectable conductor cross-sections • for main contacts — stranded — finely stranded with core end processing — finely stranded without core end processing • at AWG cables for main contacts	max. 1x 50, 1x 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 • stranded • finely stranded with core end processing • finely stranded without core end processing	16 ... 70 mm ² 16 ... 70 mm ² 16 ... 70 mm ²		
connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing	0.5 ... 4 mm ² 0.5 ... 2.5 mm ²		
type of connectable conductor cross-sections • for auxiliary contacts — solid — solid or stranded — finely stranded with core end processing • at AWG cables 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 • for auxiliary contacts	18 ... 14		
Safety related data			
product function mirror contact acc. to IEC 60947-4-1	Yes		
B10 value with high demand rate acc. to SN 31920	1 000 000		
product function positively driven operation acc. to IEC 60947-5-1	No		
protection class IP on the front acc. to IEC 60529	IP20		
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front		
suitability for use • safety-related switching OFF	Yes		
Certificates/ approvals			
<table> <tr> <td>General Product Approval</td><td>EMC</td></tr> </table>		General Product Approval	EMC
General Product Approval	EMC		
     			
Functional Safety/Safety of Machinery	Test Certificates Marine / Shipping		

[Type Examination Certificate](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



other

Railway

[Confirmation](#)

[Miscellaneous](#)

[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=3RT1054-1AF36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-1AF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1AF36>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-1AF36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1AF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-1AF36&objecttype=14&gridview=view1>



