

Power contactor, AC-3 32 A, 15 kW / 400 V 1 NO + 1 NC, 24 V DC
3-pole, size S0 screw terminals



product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
Size of contactor	S0
Product extension function module for communication	No
product extension auxiliary switch	Yes
power loss [W] for rated value of the current at AC in hot operating state	8.1 W
power loss [W] for rated value of the current at AC in hot operating state per pole	2.7 W
power loss [W] for rated value of the current without load current share typical	5.9 W
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	IP20
Shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 7,5g / 10 ms
Shock resistance with sine pulse	
• at DC	15g / 5 ms, 10g / 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 EN 81346-2	Q

Ambient conditions

• installation altitude at height above sea level maximum	2 000 m
• ambient temperature during operation	-25 ... +60 °C
• ambient temperature 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	50 A
• Operating current at AC-1 — up to 690 V at ambient temperature 40 °C rated value — up to 690 V at ambient temperature 60 °C rated value	50 A 42 A
• Operating current at AC-2 at 400 V rated value	32 A
• — operating current at AC-3 at 400 V rated value — Operating current at AC-3 at 500 V rated value — Operating current at AC-3 at 690 V rated value	32 A 32 A 21 A
• Operating current at AC-4 at 400 V rated value	22 A

• Operating current at AC-5a up to 690 V rated value	44 A
• Operating current at AC-5b up to 400 V rated value	26.5 A
• Operating current at AC-6a — up to 230 V for current peak value n=20 rated value	30.8 A
— up to 400 V for current peak value n=20 rated value	30.8 A
— up to 500 V for current peak value n=20 rated value	27 A
— up to 690 V for current peak value n=20 rated value	21 A
• Operating current at AC-6a — up to 230 V for current peak value n=30 rated value	20.5 A
— up to 400 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	18 A
— up to 690 V for current peak value n=30 rated value	18 A
Minimum cross-section in main circuit	
• at maximum AC-1 rated value	10 mm ²
Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	12 A
• at 690 V rated value	12 A
Operating current	
• at 1 current path at DC-1 — at 24 V rated value	35 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	35 A
— at 110 V rated value	35 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	35 A

— at 110 V rated value	35 A
— at 220 V rated value	35 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	20 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 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	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 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	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
• Operating power at AC-2 at 400 V rated value	15 kW
•	
— operating power at AC-3 at 230 V rated value	7.5 kW
— operating power at AC-3 at 400 V rated value	15 kW
— operating power at AC-3 at 500 V rated value	15 kW
— operating power at AC-3 at 690 V rated value	18.5 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	6 kW
• at 690 V rated value	10.3 kW
Operating apparent output at AC-6a	
• up to 230 V for current peak value n=20 rated value	12.2 kV·A
• up to 400 V for current peak value n=20 rated value	21.3 kV·A

• up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value	23.3 kV·A 25 kV·A
Operating apparent output 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	8.1 kV·A 14.2 kV·A 15.5 kV·A 21.5 kV·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 • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum	499 A; Use minimum cross-section acc. to AC-1 rated value 395 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 186 A; Use minimum cross-section acc. to AC-1 rated value 152 A; Use minimum cross-section acc. to AC-1 rated value
No-load switching frequency • at DC	1 500 1/h
• Operating frequency at AC-1 maximum • Operating frequency at AC-2 maximum • operating frequency at AC-3 maximum • Operating frequency at AC-4 maximum	1 000 1/h 750 1/h 750 1/h 250 1/h
Control circuit/ Control	
Type of voltage of the control supply voltage	DC
control supply voltage at DC • rated value	24 V
Operating range factor control supply voltage rated value of magnet coil at DC • initial value • Full-scale value	0.8 1.1
Closing power of magnet coil at DC	5.9 W
Holding power of magnet coil at DC	5.9 W
Closing delay • at DC	50 ... 170 ms
Opening delay	

• at DC	15 ... 17.5 ms
Arcing time	10 ... 10 ms
Control version of the switch operating mechanism	Standard A1 - A2
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
• 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	27 A
• at 600 V rated value	27 A
yielded mechanical performance [hp]	
• for single-phase AC motor — at 110/120 V rated value	2 hp

— at 230 V rated value	5 hp
• for three-phase AC motor	
— at 200/208 V rated value	10 hp
— at 220/230 V rated value	10 hp
— at 460/480 V rated value	20 hp
— at 575/600 V rated value	25 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	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)
• Design of the fuse link for short-circuit protection of the main circuit with type of assignment 2 required	gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)
• design of the fuse link for short-circuit protection of the auxiliary switch required	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	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
• mounting type side-by-side mounting	Yes
height	85 mm
width	45 mm
depth	107 mm
required spacing	
• with side-by-side mounting	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
• for live parts	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm

Connections/ Terminals

• type of electrical connection for main current circuit	screw-type terminals
• type of electrical connection for auxiliary and control current circuit	screw-type terminals
• Type of electrical connection at contactor for auxiliary contacts	Screw-type terminals
• Type of electrical connection of magnet coil	Screw-type terminals
• type of connectable conductor cross-sections for main contacts solid	2x (1 ... 2.5 mm ²), 2x (2.5 ... 10 mm ²)
• type of connectable conductor cross-sections for main contacts single or multi-stranded	2x (1 ... 2,5 mm ²), 2x (2,5 ... 10 mm ²)
• type of connectable conductor cross-sections for main contacts finely stranded with core end processing	2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ²
• type of connectable conductor cross-sections at AWG conductors for main contacts	2x (16 ... 12), 2x (14 ... 8)
connectable conductor cross-section for main contacts • solid	1 ... 10 mm ²
• stranded	1 ... 10 mm ²
• finely stranded with core end processing	1 ... 10 mm ²
connectable conductor cross-section for auxiliary contacts • single or multi-stranded	0.5 ... 2.5 mm ²
• finely stranded with core end processing	0.5 ... 2.5 mm ²
• type of connectable conductor cross-sections for auxiliary contacts single or multi-stranded	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
• type of connectable conductor cross-sections for auxiliary contacts finely stranded with core end processing	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
• type of connectable conductor cross-sections at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
AWG number as coded connectable conductor cross section • for main contacts	16 ... 8
• for auxiliary contacts	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	40 %
• with high demand rate acc. to SN 31920	73 %
failure rate [FIT]	

- with low demand rate acc. to SN 31920

100 FIT

Product function

- Mirror contact acc. to IEC 60947-4-1

Yes

T1 value for proof test interval or service life acc. to IEC 61508

20 y

protection against electrical shock

finger-safe

Suitability for use safety-related switching OFF

Yes

Certificates/ approvals

General Product Approval

EMC



CCC



CSA



UL

[KC](#)



RCM

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates

[Type Examination Certificate](#)



EG-Konf.

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Miscellaneous](#)

Marine / Shipping



ABS



BUREAU VERITAS



LRS



RINA



RMRS



DNVGL.COM/AF

other

[Confirmation](#)



VDE

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=3RT2027-1BB40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-1BB40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-1BB40>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-1BB40&lang=en

Characteristic: Tripping characteristics, I^2t , Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-1BB40/char>

Further characteristics (e.g. electrical endurance, switching frequency)
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-1BB40&objecttype=14&gridview=view1>





