



Contactor, AC-3, 30 kW / 400 V, 1 NO + 1 NC, 110 V AC, 50 Hz, 3-pole, Size S2, Spring-type terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
<b>General technical data</b>	
size of contactor	S2
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	11.4 W
• per pole	3.8 W
power loss [W] for rated value of the current without load current share typical	16 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
shock resistance at rectangular impulse	
• at AC	11.8g / 5 ms, 7.4g / 10 ms
shock resistance with sine pulse	
• at AC	18.5g / 5 ms, 11.6g / 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
<b>Ambient conditions</b>	
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
<b>Main circuit</b>	
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
operational current	

<ul style="list-style-type: none"> <li>• at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	80 A
<ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 40 °C rated value</li> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul> </li> </ul>	80 A 70 A
<ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	65 A 65 A 47 A
<ul style="list-style-type: none"> <li>• at AC-4 at 400 V rated value</li> </ul>	55 A
<ul style="list-style-type: none"> <li>• at AC-5a up to 690 V rated value</li> </ul>	70.4 A
<ul style="list-style-type: none"> <li>• at AC-5b up to 400 V rated value</li> </ul>	53.9 A
<ul style="list-style-type: none"> <li>• at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=20 rated value</li> <li>— up to 400 V for current peak value n=20 rated value</li> <li>— up to 500 V for current peak value n=20 rated value</li> <li>— up to 690 V for current peak value n=20 rated value</li> </ul> </li> </ul>	56.9 A 56.9 A 56.9 A 47 A
<ul style="list-style-type: none"> <li>• at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=30 rated value</li> <li>— up to 400 V for current peak value n=30 rated value</li> <li>— up to 500 V for current peak value n=30 rated value</li> <li>— up to 690 V for current peak value n=30 rated value</li> </ul> </li> </ul>	38 A 38 A 38 A 38 A
minimum cross-section in main circuit at maximum AC-1 rated value	25 mm <sup>2</sup>
<b>operational current for approx. 200000 operating cycles at AC-4</b>	
<ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>	28 A
<ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>	22 A
<b>operational current</b>	
<ul style="list-style-type: none"> <li>• at 1 current path at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>	55 A 4.5 A 1 A 0.4 A 0.25 A
<ul style="list-style-type: none"> <li>• with 2 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>	55 A 45 A 5 A 1 A 0.8 A
<ul style="list-style-type: none"> <li>• with 3 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>	55 A 55 A 45 A 2.9 A 1.4 A
<b>operational current</b>	
<ul style="list-style-type: none"> <li>• at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> </ul> </li> </ul>	35 A 2.5 A

<ul style="list-style-type: none"> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>• with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>• with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>	1 A 0.1 A 0.06 A  55 A 25 A 5 A 0.27 A 0.16 A  55 A 55 A 25 A 0.6 A 0.35 A
<b>operating power</b> <ul style="list-style-type: none"> <li>• at AC-2 at 400 V rated value</li> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	30 kW  18.5 kW 30 kW 37 kW 37 kW
<b>operating power for approx. 200000 operating cycles at AC-4</b> <ul style="list-style-type: none"> <li>• at 400 V rated value</li> <li>• at 690 V rated value</li> </ul>	14.7 kW 20 kW
<b>operating apparent power at AC-6a</b> <ul style="list-style-type: none"> <li>• up to 230 V for current peak value n=20 rated value</li> <li>• up to 400 V for current peak value n=20 rated value</li> <li>• up to 500 V for current peak value n=20 rated value</li> <li>• up to 690 V for current peak value n=20 rated value</li> </ul>	22.6 kV·A 39.4 kV·A 49.2 kV·A 56.1 kV·A
<b>operating apparent power at AC-6a</b> <ul style="list-style-type: none"> <li>• up to 230 V for current peak value n=30 rated value</li> <li>• up to 400 V for current peak value n=30 rated value</li> <li>• up to 500 V for current peak value n=30 rated value</li> <li>• up to 690 V for current peak value n=30 rated value</li> </ul>	15.1 kV·A 26.2 kV·A 32.8 kV·A 45.3 kV·A
<b>short-time withstand current in cold operating state up to 40 °C</b> <ul style="list-style-type: none"> <li>• limited to 1 s switching at zero current maximum</li> <li>• limited to 5 s switching at zero current maximum</li> <li>• limited to 10 s switching at zero current maximum</li> <li>• limited to 30 s switching at zero current maximum</li> <li>• limited to 60 s switching at zero current maximum</li> </ul>	1 055 A; Use minimum cross-section acc. to AC-1 rated value 730 A; Use minimum cross-section acc. to AC-1 rated value 520 A; Use minimum cross-section acc. to AC-1 rated value 336 A; Use minimum cross-section acc. to AC-1 rated value 272 A; Use minimum cross-section acc. to AC-1 rated value
<b>no-load switching frequency</b> <ul style="list-style-type: none"> <li>• at AC</li> </ul>	5 000 1/h
<b>operating frequency</b> <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> <li>• at AC-2 maximum</li> <li>• at AC-3 maximum</li> <li>• at AC-4 maximum</li> </ul>	800 1/h 400 1/h 700 1/h 200 1/h
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC
<b>control supply voltage at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>	110 V
<b>operating range factor control supply voltage rated value of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	0.8 ... 1.1
<b>apparent pick-up power of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	190 V·A

<b>inductive power factor with closing power of the coil</b> • at 50 Hz	0.72
<b>apparent holding power of magnet coil at AC</b> • at 50 Hz	16 V·A
<b>inductive power factor with the holding power of the coil</b> • at 50 Hz	0.37
<b>closing delay</b> • at AC	10 ... 80 ms
<b>opening delay</b> • at AC	10 ... 18 ms
<b>arcing time</b>	10 ... 20 ms
<b>control version of the switch operating mechanism</b>	Standard A1 - A2
<b>Auxiliary circuit</b>	
number of NC contacts for auxiliary contacts instantaneous contact	1
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
<b>operational current at AC-15</b> • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value	10 A 3 A 2 A 1 A
<b>operational current at DC-12</b> • 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	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
<b>operational current at DC-13</b> • 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	10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A
<b>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)
<b>UL/CSA ratings</b>	
<b>full-load current (FLA) for 3-phase AC motor</b> • at 480 V rated value • at 600 V rated value	65 A 52 A
<b>yielded mechanical performance [hp]</b> • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value	5 hp 10 hp 20 hp 20 hp 50 hp 50 hp
<b>contact rating of auxiliary contacts according to UL</b>	A600 / P600
<b>Short-circuit protection</b>	
<b>design of the fuse link</b> • for short-circuit protection of the main circuit — with type of coordination 1 required	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A

<div>— with type of assignment 2 required</div> <div><div>• for short-circuit protection of the auxiliary switch required</div></div>	(415 V, 80 kA) gG: 125A (690V,100kA), aM: 63A (690V,100kA), BS88: 100A (415V,80kA) 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
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
<div>• side-by-side mounting</div>	Yes
height	114 mm
width	55 mm
depth	130 mm
required spacing	
<div><div>• with side-by-side mounting</div><div><div>— forwards</div><div>— upwards</div><div>— downwards</div><div>— at the side</div></div></div>	<div>10 mm</div> <div>10 mm</div> <div>10 mm</div> <div>0 mm</div>
<div><div>• for grounded parts</div><div><div>— forwards</div><div>— upwards</div><div>— at the side</div><div>— downwards</div></div></div>	<div>10 mm</div> <div>10 mm</div> <div>6 mm</div> <div>10 mm</div>
<div><div>• for live parts</div><div><div>— forwards</div><div>— upwards</div><div>— downwards</div><div>— at the side</div></div></div>	<div>10 mm</div> <div>10 mm</div> <div>10 mm</div> <div>6 mm</div>
Connections/ Terminals	
type of electrical connection	
<div><div>• for main current circuit</div><div>• for auxiliary and control circuit</div><div>• at contactor for auxiliary contacts</div><div>• of magnet coil</div></div>	<div>screw-type terminals</div> <div>spring-loaded terminals</div> <div>Spring-type terminals</div> <div>Spring-type terminals</div>
type of connectable conductor cross-sections	
<div><div>• for main contacts</div><div><div>— solid or stranded</div><div>— finely stranded with core end processing</div></div></div>	<div>2x (1 ... 35 mm²), 1x (1 ... 50 mm²)</div> <div>2x (1 ... 25 mm²), 1x (1 ... 35 mm²)</div>
<div>• at AWG cables for main contacts</div>	2x (18 ... 2), 1x (18 ... 1)
connectable conductor cross-section for main contacts	
<div>• finely stranded with core end processing</div>	1 ... 35 mm²
connectable conductor cross-section for auxiliary contacts	
<div><div>• solid or stranded</div><div>• finely stranded with core end processing</div><div>• finely stranded without core end processing</div></div>	<div>0.5 ... 2.5 mm²</div> <div>0.5 ... 1.5 mm²</div> <div>0.5 ... 2.5 mm²</div>
type of connectable conductor cross-sections	
<div><div>• for auxiliary contacts</div><div><div>— solid or stranded</div><div>— finely stranded with core end processing</div><div>— finely stranded without core end processing</div></div></div>	<div>2x (0.5 ... 2.5 mm²)</div> <div>2x (0.5 ... 1.5 mm²)</div> <div>2x (0.5 ... 2.5 mm²)</div>
<div>• at AWG cables for auxiliary contacts</div>	2x (20 ... 14)
<div>• AWG number as coded connectable conductor cross section for main contacts</div>	18 ... 1
<div>• AWG number as coded connectable conductor cross section for auxiliary contacts</div>	20 ... 14
Safety related data	

B10 value with high demand rate acc. to SN 31920	1 000 000
<b>proportion of dangerous failures</b>	
• 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
<b>product function</b>	
• mirror contact acc. to IEC 60947-4-1	Yes
• positively driven operation acc. to IEC 60947-5-1	No
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<b>protection class IP on the front acc. to IEC 60529</b>	IP20
<b>touch protection on the front acc. to IEC 60529</b>	finger-safe, for vertical contact from the front
suitability for use safety-related switching OFF	Yes

#### Certificates/ approvals

General Product Approval	EMC
--------------------------	-----



[KC](#)



Declaration of Conformity	Test Certificates	Marine / Shipping
---------------------------	-------------------	-------------------

[Miscellaneous](#)



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



BUREAU VERITAS

Marine / Shipping	other
-------------------	-------



LRS



PRS



RINA



RMRS



DNV GL

[Confirmation](#)

other
-------

[Confirmation](#)

#### 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=3RT2037-3AF00>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2037-3AF00>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-3AF00>

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

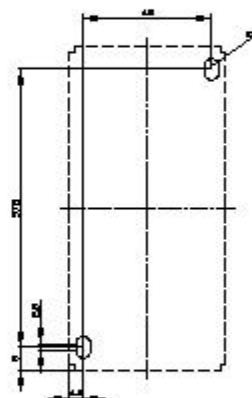
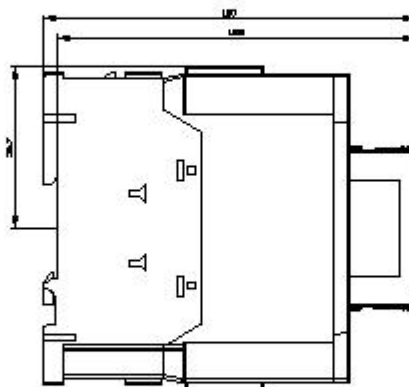
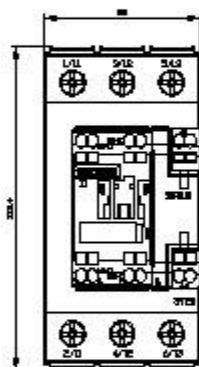
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2037-3AF00&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2037-3AF00&lang=en)

Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-3AF00/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2037-3AF00&objecttype=14&gridview=view1>





last modified:

12/15/2020 