



Power contactor, AC-3 7 A, 3 kW / 400 V 2 NO + 2 NC, 110 V AC, 50 Hz  
120 V, 60 Hz 3-pole, Size S00 Screw terminal Captive auxiliary switch

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
<b>General technical data</b>	
size of contactor	S00
product extension	
• function module for communication	No
• auxiliary switch	No
power loss [W] for rated value of the current	
• at AC in hot operating state	0.6 W
• at AC in hot operating state per pole	0.2 W
• without load current share typical	4.4 W
insulation voltage	
• of main circuit with degree of pollution 3 rated value	690 V
• of auxiliary circuit with degree of pollution 3 rated value	690 V
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 according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	10,5g / 5 ms, 6,6g / 10 ms
mechanical service life (switching cycles)	
• of contactor typical	30 000 000
• 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 according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
<b>Ambient conditions</b>	
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 according to IEC 60068-2-30 maximum	95 %

Main circuit	
<b>number of poles for main current circuit</b>	3
<b>number of NO contacts for main contacts</b>	3
<b>operating voltage</b>	
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
<b>operational current</b>	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	18 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	18 A
— up to 690 V at ambient temperature 60 °C rated value	16 A
• at AC-3	
— at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
• at AC-3e	
— at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
• at AC-4 at 400 V rated value	6.5 A
• at AC-5a up to 690 V rated value	15.8 A
• at AC-5b up to 400 V rated value	5.8 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	4 A
— up to 400 V for current peak value n=20 rated value	4 A
— up to 500 V for current peak value n=20 rated value	3.8 A
— up to 690 V for current peak value n=20 rated value	3.6 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	2.7 A
— up to 400 V for current peak value n=30 rated value	2.7 A
— up to 500 V for current peak value n=30 rated value	2.5 A
— up to 690 V for current peak value n=30 rated value	2.4 A
minimum cross-section in main circuit at maximum AC-1 rated value	2.5 mm <sup>2</sup>
<b>operational current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	2.6 A
• at 690 V rated value	1.8 A
<b>operational current</b>	
• at 1 current path at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	1.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.42 A
— at 600 V rated value	0.42 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	8.4 A
— at 220 V rated value	1.2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.5 A
• 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>	15 A
<ul style="list-style-type: none"> <li>• at 1 current path at DC-3 at DC-5</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> </ul>	15 A
<ul style="list-style-type: none"> <li>• with 2 current paths in series at DC-3 at DC-5</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> </ul>	15 A
<ul style="list-style-type: none"> <li>• with 3 current paths in series at DC-3 at DC-5</li> <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>	0.9 A
	0.7 A
	15 A
	0.1 A
	15 A
	0.25 A
	15 A
	15 A
	1.2 A
	0.14 A
	0.14 A
<b>operating power</b>	
<ul style="list-style-type: none"> <li>• at AC-2 at 400 V rated value</li> </ul>	3 kW
<ul style="list-style-type: none"> <li>• at AC-3</li> <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>	1.5 kW
	3 kW
	3 kW
	4 kW
<ul style="list-style-type: none"> <li>• at AC-3e</li> <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>	1.5 kW
	3 kW
	3 kW
	4 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> </ul>	1.15 kW
<ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>	1.15 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> </ul>	1.5 kVA
<ul style="list-style-type: none"> <li>• up to 400 V for current peak value n=20 rated value</li> </ul>	2.7 kVA
<ul style="list-style-type: none"> <li>• up to 500 V for current peak value n=20 rated value</li> </ul>	3.3 kVA
<ul style="list-style-type: none"> <li>• up to 690 V for current peak value n=20 rated value</li> </ul>	4.3 kVA
<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> </ul>	1 kVA
<ul style="list-style-type: none"> <li>• up to 400 V for current peak value n=30 rated value</li> </ul>	1.8 kVA
<ul style="list-style-type: none"> <li>• up to 500 V for current peak value n=30 rated value</li> </ul>	2.2 kVA
<ul style="list-style-type: none"> <li>• up to 690 V for current peak value n=30 rated value</li> </ul>	2.9 kVA
<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> </ul>	120 A; Use minimum cross-section acc. to AC-1 rated value
<ul style="list-style-type: none"> <li>• limited to 5 s switching at zero current maximum</li> </ul>	86 A; Use minimum cross-section acc. to AC-1 rated value
<ul style="list-style-type: none"> <li>• limited to 10 s switching at zero current maximum</li> </ul>	67 A; Use minimum cross-section acc. to AC-1 rated value
<ul style="list-style-type: none"> <li>• limited to 30 s switching at zero current maximum</li> </ul>	52 A; Use minimum cross-section acc. to AC-1 rated value
<ul style="list-style-type: none"> <li>• limited to 60 s switching at zero current maximum</li> </ul>	43 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>	10 000 1/h
<b>operating frequency</b>	
<ul style="list-style-type: none"> <li>• at AC-1 maximum</li> </ul>	1 000 1/h
<ul style="list-style-type: none"> <li>• at AC-2 maximum</li> </ul>	750 1/h
<ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>	750 1/h
<ul style="list-style-type: none"> <li>• at AC-3e maximum</li> </ul>	750 1/h
<ul style="list-style-type: none"> <li>• at AC-4 maximum</li> </ul>	250 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> • at 50 Hz rated value • at 60 Hz rated value	110 V 120 V
<b>operating range factor control supply voltage rated value of magnet coil at AC</b> • at 50 Hz • at 60 Hz	0.8 ... 1.1 0.8 ... 1.1
<b>apparent pick-up power of magnet coil at AC</b> • at 50 Hz • at 60 Hz	26.4 VA 26.4 VA
<b>inductive power factor with closing power of the coil</b> • at 50 Hz • at 60 Hz	0.81 0.81
<b>apparent holding power of magnet coil at AC</b> • at 50 Hz • at 60 Hz	4.4 VA 4.4 VA
<b>inductive power factor with the holding power of the coil</b> • at 50 Hz • at 60 Hz	0.24 0.24
<b>closing delay</b> • at AC	9 ... 35 ms
<b>opening delay</b> • at AC	7 ... 13 ms
<b>arcing time</b>	10 ... 15 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	2
number of NO contacts for auxiliary contacts instantaneous contact	2
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	6 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	6 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	4.8 A 6.1 A
<b>yielded mechanical performance [hp]</b> • for single-phase AC motor — at 110/120 V rated value	0.25 hp

<ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>• for 3-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> <li>— at 220/230 V rated value</li> <li>— at 460/480 V rated value</li> <li>— at 575/600 V rated value</li> </ul> </li> </ul>	0.75 hp  1.5 hp 2 hp 3 hp 5 hp
<b>contact rating of auxiliary contacts according to UL</b>	A600 / Q600
<b>Short-circuit protection</b>	
<b>design of the fuse link</b>	
<ul style="list-style-type: none"> <li>• for short-circuit protection of the main circuit <ul style="list-style-type: none"> <li>— with type of coordination 1 required</li> <li>— with type of assignment 2 required</li> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) gG: 10 A (500 V, 1 kA)
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
<b>fastening method</b>	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
<ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul>	Yes
<b>height</b>	58 mm
<b>width</b>	45 mm
<b>depth</b>	117 mm
<b>required spacing</b>	
<ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>	10 mm 10 mm 10 mm 0 mm  10 mm 10 mm 6 mm 10 mm  10 mm 10 mm 10 mm 6 mm
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> <li>• at contactor for auxiliary contacts</li> <li>• of magnet coil</li> </ul>	screw-type terminals screw-type terminals Screw-type terminals Screw-type terminals
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG cables for main contacts</li> </ul>	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm² 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm² 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14), 2x 12
<b>connectable conductor cross-section for main contacts</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> <li>• finely stranded with core end processing</li> </ul>	0.5 ... 4 mm² 0.5 ... 4 mm² 0.5 ... 2.5 mm²
<b>connectable conductor cross-section for auxiliary contacts</b>	
<ul style="list-style-type: none"> <li>• solid or stranded</li> <li>• finely stranded with core end processing</li> </ul>	0.5 ... 4 mm² 0.5 ... 2.5 mm²

<b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG cables for auxiliary contacts</li> </ul>	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm² 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14), 2x 12
<b>AWG number as coded connectable conductor cross section</b> <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary contacts</li> </ul>	20 ... 12 20 ... 12
<b>Safety related data</b>	
<b>product function</b> <ul style="list-style-type: none"> <li>• mirror contact according to IEC 60947-4-1</li> <li>• positively driven operation according to IEC 60947-5-1</li> </ul>	Yes No
B10 value with high demand rate according to SN 31920	1 000 000
<b>proportion of dangerous failures</b> <ul style="list-style-type: none"> <li>• with low demand rate according to SN 31920</li> <li>• with high demand rate according to SN 31920</li> </ul>	40 % 73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC 61508	20 y
<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front
<b>suitability for use</b> <ul style="list-style-type: none"> <li>• safety-related switching OFF</li> </ul>	Yes
<b>Certificates/ approvals</b>	
<b>General Product Approval</b>	



[Confirmation](#)



[KC](#)



EMC	Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates
 RCM	<a href="#">Type Examination Certificate</a>	 UKCA	 EG-Konf.
			<a href="#">Special Test Certificate</a>
			<a href="#">Type Test Certificates/Test Report</a>

#### Marine / Shipping



Marine / Shipping	other
 RMRS	<a href="#">Confirmation</a>
	 VDE
	<a href="#">Confirmation</a>

## 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=3RT2015-1AK64-3MA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-1AK64-3MA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1AK64-3MA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2015-1AK64-3MA0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2015-1AK64-3MA0&lang=en)

Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1AK64-3MA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2015-1AK64-3MA0&objecttype=14&gridview=view1>



