



power contactor, AC-3e/AC-3, 65 A, 30 kW / 400 V, 3-pole, 24 V AC, 50/60 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S2

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
• at AC in hot operating state per pole	3.8 W
• without load current share typical	6.5 W
type of calculation of power loss depending on pole	quadratic
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 protective separation between coil and main contacts according 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 (operating 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 according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2014
<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 %
<b>Environmental footprint</b>	

Environmental Product Declaration(EPD)	Yes
Global Warming Potential [CO2 eq] total	236 kg
Global Warming Potential [CO2 eq] during manufacturing	4.11 kg
Global Warming Potential [CO2 eq] during operation	233 kg
Global Warming Potential [CO2 eq] after end of life	-0.635 kg
<b>Main circuit</b>	
<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	80 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	80 A
— up to 690 V at ambient temperature 60 °C rated value	70 A
• at AC-3	
— at 400 V rated value	65 A
— at 500 V rated value	65 A
— at 690 V rated value	47 A
• at AC-3e	
— at 400 V rated value	65 A
— at 500 V rated value	65 A
— at 690 V rated value	47 A
• at AC-4 at 400 V rated value	55 A
• at AC-5a up to 690 V rated value	70.4 A
• at AC-5b up to 400 V rated value	53.9 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	56.9 A
— up to 400 V for current peak value n=20 rated value	56.9 A
— up to 500 V for current peak value n=20 rated value	56.9 A
— up to 690 V for current peak value n=20 rated value	47 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	38 A
— up to 400 V for current peak value n=30 rated value	38 A
— up to 500 V for current peak value n=30 rated value	38 A
— up to 690 V for current peak value n=30 rated value	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>	
• at 400 V rated value	28 A
• at 690 V rated value	22 A
<b>operational current</b>	
• <b>at 1 current path at DC-1</b>	
— at 24 V rated value	55 A
— at 60 V rated value	23 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
• <b>with 2 current paths in series at DC-1</b>	
— at 24 V rated value	55 A
— at 60 V rated value	45 A
— at 110 V rated value	45 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
• <b>with 3 current paths in series at DC-1</b>	

<ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 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>	55 A 55 A 55 A 45 A 2.9 A 1.4 A
<ul style="list-style-type: none"> <li>● <b>at 1 current path at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 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>	35 A 6 A 1 A 0.1 A 0.06 A
<ul style="list-style-type: none"> <li>● <b>with 2 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 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 25 A 5 A 0.27 A 0.16 A
<ul style="list-style-type: none"> <li>● <b>with 3 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 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 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> <li>● at AC-3e <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  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 kVA 39.4 kVA 49.2 kVA 56.1 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> <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 kVA 26.2 kVA 32.8 kVA 45.3 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> <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>	
• at AC-1 maximum	800 1/h
• at AC-2 maximum	400 1/h
• at AC-3 maximum	700 1/h
• at AC-3e maximum	700 1/h
• at AC-4 maximum	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>	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	24 V
<b>operating range factor control supply voltage rated value of magnet coil at AC</b>	
• at 50 Hz	0.8 ... 1.1
• at 60 Hz	0.85 ... 1.1
<b>apparent pick-up power of magnet coil at AC</b>	
• at 50 Hz	210 VA
• at 60 Hz	188 VA
<b>inductive power factor with closing power of the coil</b>	
• at 50 Hz	0.69
• at 60 Hz	0.65
<b>apparent holding power of magnet coil at AC</b>	
• at 50 Hz	17.2 VA
• at 60 Hz	16.5 VA
<b>inductive power factor with the holding power of the coil</b>	
• at 50 Hz	0.36
• at 60 Hz	0.39
<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	10 A
• at 400 V rated value	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
<b>operational current at DC-12</b>	
• 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
<b>operational current at DC-13</b>	
• 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
<b>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings	
<b>full-load current (FLA) for 3-phase AC motor</b>	
• at 480 V rated value	65 A
• at 600 V rated value	52 A
<b>yielded mechanical performance [hp]</b>	
• for single-phase AC motor	
— at 110/120 V rated value	5 hp
— at 230 V rated value	10 hp
• for 3-phase AC motor	
— at 200/208 V rated value	20 hp
— at 220/230 V rated value	20 hp
— at 460/480 V rated value	50 hp
— at 575/600 V rated value	50 hp
<b>contact rating of auxiliary contacts according to UL</b>	A600 / P600
Short-circuit protection	
<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 (415 V, 80 kA)
— with type of assignment 2 required	gG: 125A (690V,100kA), aM: 63A (690V,100kA), BS88: 100A (415V,80kA)
• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
<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 DIN rail according to DIN EN 60715
<b>height</b>	114 mm
<b>width</b>	55 mm
<b>depth</b>	130 mm
<b>required spacing</b>	
• 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	
<b>type of electrical connection</b>	
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	screw-type terminals
• at contactor for auxiliary contacts	Screw-type terminals
• of magnet coil	Screw-type terminals
<b>type of connectable conductor cross-sections</b>	
• for main contacts	
— solid or stranded	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )
• for AWG cables for main contacts	2x (18 ... 2), 1x (18 ... 1)
<b>connectable conductor cross-section for main contacts</b>	
• finely stranded with core end processing	1 ... 35 mm <sup>2</sup>
<b>connectable conductor cross-section for auxiliary contacts</b>	
• solid or stranded	0.5 ... 2.5 mm <sup>2</sup>
• finely stranded with core end processing	0.5 ... 2.5 mm <sup>2</sup>
<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>• for AWG cables for auxiliary contacts</li> </ul>	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14)
<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>	18 ... 1 20 ... 14

<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
suitability for use safety-related switching OFF	Yes; applies only to contactor operating mechanism
<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 %
<b>B10 value with high demand rate according to SN 31920</b>	1 000 000
<b>failure rate [FIT] with low demand rate according to SN 31920</b>	100 FIT
IEC 61508	
<b>T1 value</b>	
<ul style="list-style-type: none"> <li>• for proof test interval or service life according to IEC 61508</li> </ul>	20 a
Electrical Safety	
<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>Approvals Certificates</b>	
<b>General Product Approval</b>	



[Confirmation](#)



General Product Approval	EMV	Functional Safety	Test Certificates	
<a href="#">KC</a>			<a href="#">Type Examination Certificate</a>	<a href="#">Type Test Certificates/Test Report</a>
				<a href="#">Special Test Certificate</a>

<b>Marine / Shipping</b>					

Marine / Shipping	other	Railway	Dangerous Good	Environment
	<a href="#">Confirmation</a>	<a href="#">Confirmation</a>	<a href="#">Special Test Certificate</a>	<a href="#">Transport Information</a>

<b>Environment</b>	
<a href="#">Environmental Confirmations</a>	

## Further information

### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

### 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=3RT2037-1AC20>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2037-1AC20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-1AC20>

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

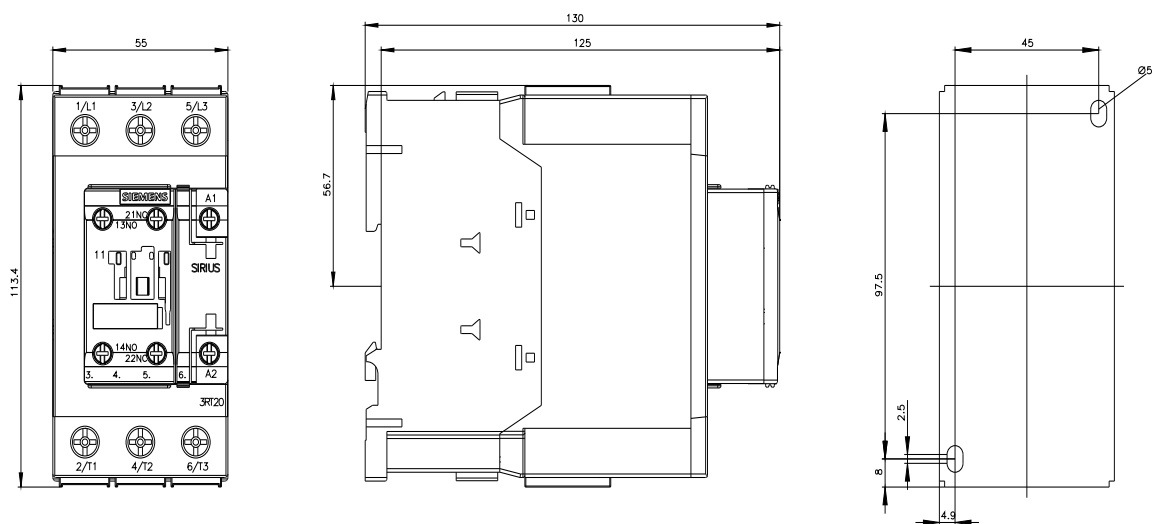
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2037-1AC20&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2037-1AC20&lang=en)

### Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-1AC20/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2037-1AC20&objecttype=14&gridview=view1>





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