



Power contactor, AC-3 300 A, 160 kW / 400 V AC (50-60 Hz) / DC operation 110-127 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S10 Busbar connections Drive: conventional screw terminal

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Power contactor
<b>product type designation</b>	3RT1
<b>General technical data</b>	
<b>size of contactor</b>	S10
<b>product extension</b>	
• function module for communication	No
• auxiliary switch	Yes
<b>power loss [W] for rated value of the current at AC in hot operating state</b>	66 W
• per pole	22 W
<b>power loss [W] for rated value of the current without load current share typical</b>	7.4 W
<b>surge voltage resistance</b>	
• 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
<b>shock resistance at rectangular impulse</b>	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
<b>shock resistance with sine pulse</b>	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 10 ms
<b>mechanical service life (switching cycles)</b>	
• 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
<b>reference code acc. to IEC 81346-2</b>	Q
Substance Prohibitance (Date)	01.05.2012 00:00:00
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3

<b>number of NO contacts for main contacts</b>	3
operating voltage at AC-3 rated value maximum	1 000 V
<b>operational current</b>	
<ul style="list-style-type: none"> <li>● at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	330 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> <li>— up to 1000 V at ambient temperature 40 °C rated value</li> <li>— up to 1000 V at ambient temperature 60 °C rated value</li> </ul> </li> </ul>	330 A 300 A 150 A 150 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> <li>— at 1000 V rated value</li> </ul> </li> </ul>	300 A 300 A 280 A 95 A
● at AC-4 at 400 V rated value	280 A
● at AC-5a up to 690 V rated value	290 A
● at AC-5b up to 400 V rated value	249 A
● 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> <li>— up to 1000 V for current peak value n=20 rated value</li> </ul>	292 A 292 A 292 A 280 A 95 A
● 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> <li>— up to 1000 V for current peak value n=30 rated value</li> </ul>	195 A 195 A 195 A 195 A 95 A
minimum cross-section in main circuit at maximum AC-1 rated value	185 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> <li>● at 690 V rated value</li> </ul>	125 A 115 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> <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> </ul> </li> </ul>	300 A 33 A 3.8 A 0.9 A 0.6 A  300 A 300 A 300 A 4 A

<ul style="list-style-type: none"> <li>— at 600 V rated value</li> <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>	<p>2 A</p> <p>300 A</p> <p>300 A</p> <p>300 A</p> <p>11 A</p> <p>5.2 A</p>
<p><b>operational current</b></p> <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> <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 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>	<p>300 A</p> <p>3 A</p> <p>0.6 A</p> <p>0.18 A</p> <p>0.125 A</p> <p>300 A</p> <p>300 A</p> <p>2.5 A</p> <p>0.65 A</p> <p>0.37 A</p> <p>300 A</p> <p>300 A</p> <p>300 A</p> <p>1.4 A</p> <p>0.75 A</p>
<p><b>operating power</b></p> <ul style="list-style-type: none"> <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> <li>— at 1000 V rated value</li> </ul> </li> </ul>	<p>90 kW</p> <p>160 kW</p> <p>200 kW</p> <p>250 kW</p> <p>132 kW</p>
<p><b>operating power for approx. 200000 operating cycles at AC-4</b></p> <ul style="list-style-type: none"> <li>● at 400 V rated value</li> <li>● at 690 V rated value</li> </ul>	<p>71 kW</p> <p>112 kW</p>
<p><b>operating apparent power at AC-6a</b></p> <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> <li>● up to 1000 V for current peak value n=20 rated value</li> </ul>	<p>110 000 kV·A</p> <p>200 000 V·A</p> <p>250 000 V·A</p> <p>330 000 V·A</p> <p>160 000 V·A</p>
<p><b>operating apparent power at AC-6a</b></p> <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> <li>● up to 1000 V for current peak value n=30 rated value</li> </ul>	<p>70 000 V·A</p> <p>130 000 V·A</p> <p>160 000 V·A</p> <p>230 000 V·A</p> <p>160 000 V·A</p>
<p><b>short-time withstand current in cold operating state up to 40 °C</b></p> <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>	<p>5 524 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>4 579 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>3 153 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>1 883 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>1 445 A; Use minimum cross-section acc. to AC-1 rated value</p>
<p><b>no-load switching frequency</b></p>	

<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	2 000 1/h 2 000 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>	750 1/h 250 1/h 500 1/h 130 1/h
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC/DC
<b>control supply voltage at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>	110 ... 127 V 110 ... 127 V
<b>control supply voltage at DC</b>	
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	110 ... 127 V
<b>operating range factor control supply voltage rated value of magnet coil at DC</b>	
<ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	0.8 1.1
<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> <li>• at 60 Hz</li> </ul>	0.8 ... 1.1 0.8 ... 1.1
<b>design of the surge suppressor</b>	with varistor
<b>apparent pick-up power of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	590 V·A 590 V·A
<b>inductive power factor with closing power of the coil</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	0.9 0.9
<b>apparent holding power of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	6.7 V·A 6.7 V·A
<b>inductive power factor with the holding power of the coil</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	0.9 0.9
<b>closing power of magnet coil at DC</b>	650 W
<b>holding power of magnet coil at DC</b>	7.4 W
<b>closing delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	30 ... 95 ms 30 ... 95 ms
<b>opening delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	40 ... 80 ms 40 ... 80 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>	
<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>	6 A 3 A 2 A 1 A
<b>operational current at DC-12</b>	
<ul style="list-style-type: none"> <li>• at 24 V rated value</li> </ul>	10 A

<ul style="list-style-type: none"> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>	6 A 6 A 3 A 2 A 1 A 0.15 A
<b>operational current at DC-13</b> <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>	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> <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>	302 A 289 A
<b>yielded mechanical performance [hp]</b> <ul style="list-style-type: none"> <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>	100 hp 125 hp 250 hp 300 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: 500 A (690 V, 100 kA) gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 A (415 V, 50 kA) gG: 10 A (500 V, 1 kA)
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
<b>fastening method</b> <ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul>	screw fixing Yes
<b>height</b>	210 mm
<b>width</b>	145 mm
<b>depth</b>	202 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>	20 mm 10 mm 10 mm 0 mm  20 mm 10 mm 10 mm 10 mm  20 mm 10 mm 10 mm 10 mm

Connections/ Terminals	
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
<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>	Connection bar screw-type terminals Screw-type terminals Screw-type terminals
<b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• at AWG cables for main contacts</li> </ul>	2/0 ... 500 kcmil
<b>connectable conductor cross-section for main contacts</b> <ul style="list-style-type: none"> <li>• stranded</li> </ul>	70 ... 240 mm <sup>2</sup>
<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 mm <sup>2</sup> 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</li> <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 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), max. 2x (0.75 ... 4 mm <sup>2</sup> ) 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), max. 2x (0,75 ... 4 mm <sup>2</sup> ) 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) 2x (20 ... 16), 2x (18 ... 14), 1x 12
<b>AWG number as coded connectable conductor cross section</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	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	IP00; IP20 with box terminal/cover
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover
<b>suitability for use</b> <ul style="list-style-type: none"> <li>• safety-related switching on</li> <li>• safety-related switching OFF</li> </ul>	Yes Yes

Certificates/ approvals	
General Product Approval	EMC



[KC](#)



Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Miscellaneous](#)



Marine / Shipping	other
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[Confirmation](#)

[Miscellaneous](#)

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## Railway

[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=3RT1066-6AF36>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-6AF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AF36>

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

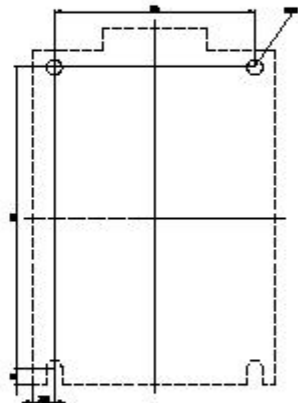
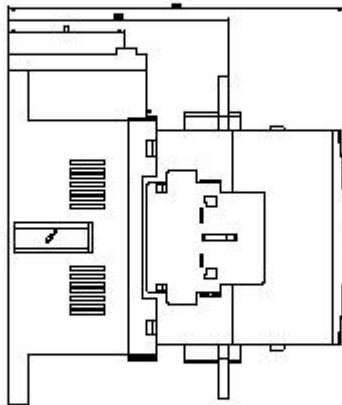
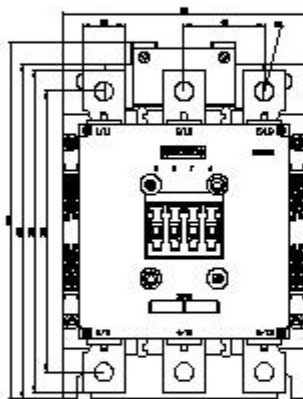
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1066-6AF36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1066-6AF36&lang=en)

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

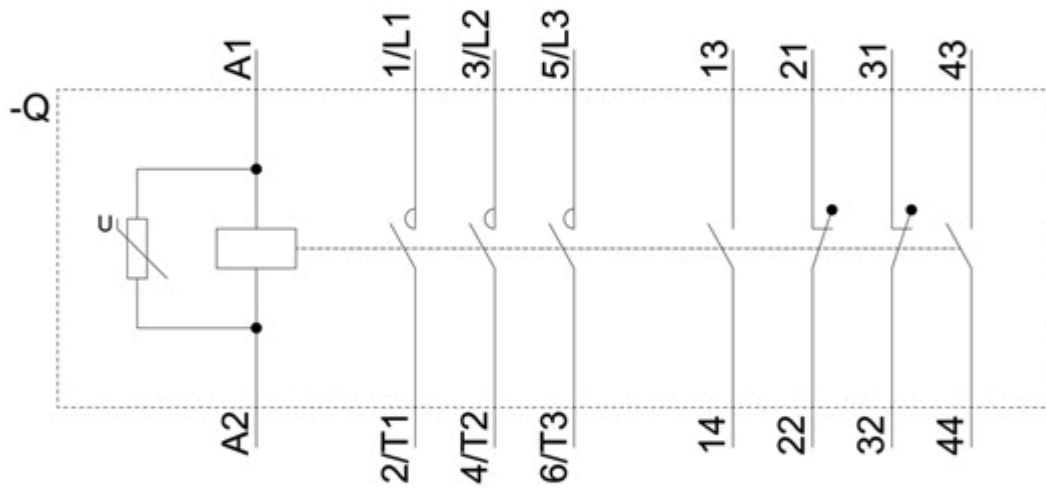
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1066-6AF36&objecttype=14&gridview=view1>







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