

Power contactor, AC-3 95 A, 45 kW / 400 V 220 V AC, 50/60 Hz 3-pole, Size S3 Screw terminal !!! Phased-out product !!! Successor is SIRIUS 3RT2 Preferred successor type is >>3RT2046-1AN20<<



product brand name	SIRIUS
Product designation	power contactor
<b>General technical data</b>	
<b>Size of contactor</b>	S3
• Insulation voltage rated value	1 000 V
<b>Degree of pollution</b>	3
<b>Surge voltage resistance rated value</b>	6 kV
<b>maximum permissible voltage for safe isolation</b>	
• between coil and main contacts acc. to EN 60947-1	690 V
• protection class IP on the front	IP20; IP20 on the front with cover / box terminal
• Protection class IP of the terminal	IP00
<b>Shock resistance at rectangular impulse</b>	
• at AC	6,8g / 5 ms, 4g / 10 ms
<b>Shock resistance with sine pulse</b>	
• at AC	10,6g / 5 ms, 6,2g / 10 ms
<b>Mechanical service life (switching cycles)</b>	
• of contactor typical	10 000 000

<ul style="list-style-type: none"> <li>• of the contactor with added electronics-compatible auxiliary switch block typical</li> </ul>	5 000 000
<ul style="list-style-type: none"> <li>• of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
<b>Reference code acc. to DIN EN 81346-2</b>	Q

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	2 000 m
<b>Ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	-25 ... +60 °C
<ul style="list-style-type: none"> <li>• during storage</li> </ul>	-55 ... +80 °C

### Main circuit

<b>Number of poles for main current circuit</b>	3
<b>Number of NO contacts for main contacts</b>	3
<b>Number of NC contacts for main contacts</b>	0
<b>Operating current</b>	
<ul style="list-style-type: none"> <li>• at AC-1 at 400 V <ul style="list-style-type: none"> <li>— at ambient temperature 40 °C rated value</li> </ul> </li> </ul>	120 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>	120 A 100 A 70 A 60 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 690 V rated value</li> <li>— at 1000 V rated value</li> </ul> </li> </ul>	95 A 58 A 30 A
<ul style="list-style-type: none"> <li>• at AC-4 at 400 V rated value</li> </ul>	80 A
<b>Connectable conductor cross-section in main circuit at AC-1</b>	
<ul style="list-style-type: none"> <li>• at 60 °C minimum permissible</li> <li>• at 40 °C minimum permissible</li> </ul>	35 mm <sup>2</sup> 50 mm <sup>2</sup>
<b>Operating 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>	42 A 27 A
<b>Operating current</b>	
<ul style="list-style-type: none"> <li>• at 1 current path at DC-1</li> </ul>	

<ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</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> </ul> </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> </ul> </li> </ul>	<p>100 A</p> <p>9 A</p> <p>100 A</p> <p>100 A</p> <p>100 A</p> <p>100 A</p>
<p><b>Operating 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> </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> </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> </ul> </li> </ul>	<p>40 A</p> <p>2.5 A</p> <p>100 A</p> <p>100 A</p> <p>100 A</p> <p>100 A</p>
<p><b>Operating power</b></p> <ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— at 230 V at 60 °C rated value</li> <li>— at 400 V rated value</li> <li>— at 690 V rated value</li> <li>— at 690 V at 60 °C rated value</li> <li>— at 1000 V at 60 °C rated value</li> </ul> </li> <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> <li>— at 1000 V rated value</li> </ul> </li> </ul>	<p>38 kW</p> <p>66 kW</p> <p>114 kW</p> <p>114 kW</p> <p>98 W</p> <p>45 kW</p> <p>22 kW</p> <p>45 kW</p> <p>55 kW</p> <p>55 kW</p> <p>37 W</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>22 kW</p> <p>25.4 kW</p>
<p><b>Thermal short-time current limited to 10 s</b></p>	<p>760 A</p>
<p><b>No-load switching frequency</b></p> <ul style="list-style-type: none"> <li>• at AC</li> </ul>	<p>5 000 1/h</p>
<p><b>Operating frequency</b></p> <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> <li>• at AC-2 maximum</li> </ul>	<p>900 1/h</p> <p>350 1/h</p>

- at AC-3 maximum
- at AC-4 maximum

850 1/h

250 1/h

### Control circuit/ Control

<b>Type of voltage of the control supply voltage</b>	AC
<b>Control supply voltage at AC</b>	
• at 50 Hz rated value	220 V
• at 60 Hz rated value	220 V
<b>control supply voltage frequency</b>	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
<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>	298 V·A
<b>Inductive power factor with closing power of the coil</b>	0.7
<b>Apparent holding power of magnet coil at AC</b>	27 V·A
<b>Inductive power factor with the holding power of the coil</b>	0.29
<b>Closing delay</b>	
• at AC	17 ... 90 ms
<b>Opening delay</b>	
• at AC	10 ... 25 ms
<b>Arcing time</b>	10 ... 15 ms

### Auxiliary circuit

<b>Number of NC contacts for auxiliary contacts</b>	
• instantaneous contact	0
<b>Number of NO contacts for auxiliary contacts</b>	
• instantaneous contact	0
<b>Operating current at AC-12 maximum</b>	10 A
<b>Operating current at AC-15</b>	
• at 230 V rated value	6 A
• at 400 V rated value	3 A
<b>Operating current at DC-12</b>	
• at 60 V rated value	6 A
• at 110 V rated value	3 A
• at 220 V rated value	1 A
<b>Operating current at DC-13</b>	
• at 24 V rated value	10 A
• at 60 V rated value	2 A
• at 110 V rated value	1 A
• at 220 V rated value	0.3 A

<b>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)
<b>UL/CSA ratings</b>	
<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>	<p>fuse gL/gG: 250 A</p> <p>fuse gL/gG: 160 A</p> <p>fuse gL/gG: 10 A</p>
<b>Installation/ mounting/ dimensions</b>	
<b>Mounting type</b>	screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail
<ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>	Yes
<b>Height</b>	146 mm
<b>Width</b>	70 mm
<b>Depth</b>	139 mm
<b>Required spacing</b>	
<ul style="list-style-type: none"> <li>• for grounded parts <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>	6 mm
<b>Connections/ Terminals</b>	
<ul style="list-style-type: none"> <li>• Type of electrical connection for main current circuit</li> <li>• Type of electrical connection for auxiliary and control current circuit</li> </ul>	<p>screw-type terminals</p> <p>screw-type terminals</p>
<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>— stranded</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>• at AWG conductors for main contacts</li> </ul>	<p>2x (2.5 ... 16 mm<sup>2</sup>)</p> <p>2x (10 ... 50 mm<sup>2</sup>)</p> <p>2x (2,5 ... 16 mm<sup>2</sup>)</p> <p>2x (2.5 ... 35 mm<sup>2</sup>)</p> <p>2x (10 ... 35 mm<sup>2</sup>)</p> <p>2x (10 ... 1/0)</p>
<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>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for auxiliary contacts</li> </ul>	<p>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>)</p> <p>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</p> <p>2x (20 ... 16), 2x (18 ... 14), 1x 12</p>
<b>Certificates/ approvals</b>	

General Product Approval	EMC	Functional Safety/Safety of Machinery
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[Type Examination Certificate](#)

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

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other	Railway
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[Miscellaneous](#)

[Confirmation](#)

[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=3RT1046-1AN20>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1046-1AN20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1046-1AN20>

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

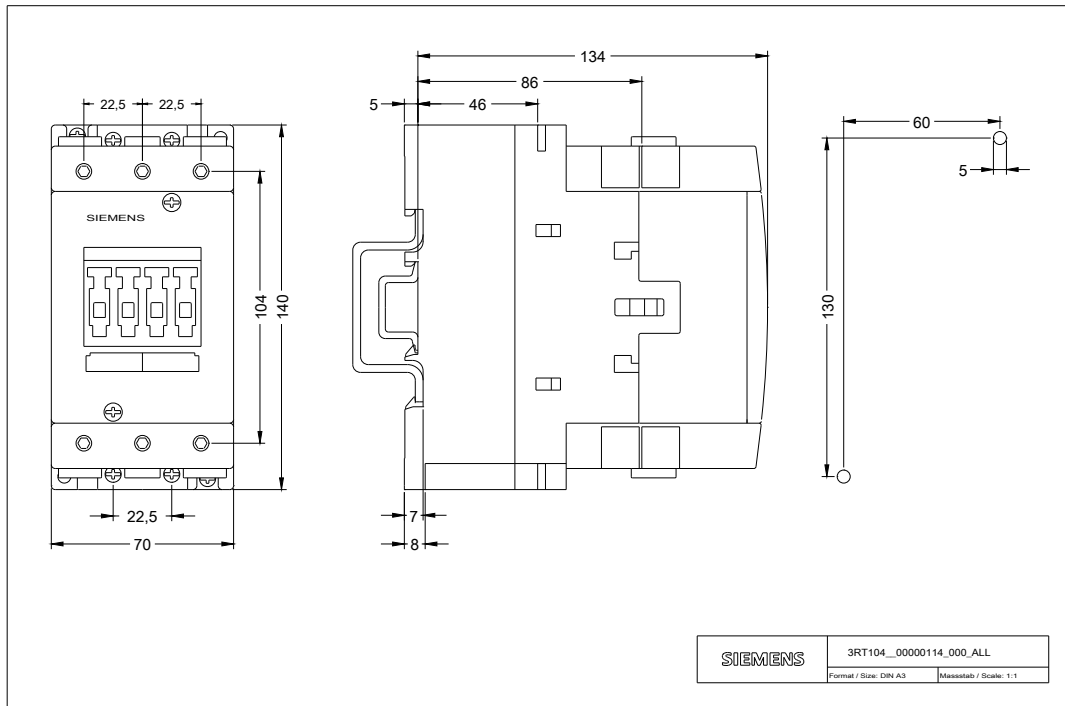
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1046-1AN20&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1046-1AN20&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1046-1AN20/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1046-1AN20&objecttype=14&gridview=view1>





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