

Contactor, AC-1, 140 A, 230 V AC, 50 / 60 Hz, 4-pole, Size S3,  
Screw terminal !!! Phased-out product !!! Successor is SIRIUS 3RT2  
Preferred successor type is >>3RT2346-1AL20<<



Figure similar

product brand name	SIRIUS
Product designation	power contactor
<b>General technical data</b>	
Size of contactor	S3
<ul style="list-style-type: none"> <li>Insulation voltage rated value</li> </ul>	1 000 V
Degree of pollution	3
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> <li>between coil and main contacts acc. to EN 60947-1</li> </ul>	690 V
<ul style="list-style-type: none"> <li>protection class IP on the front</li> </ul>	IP20; IP20 on the front with cover / box terminal
<ul style="list-style-type: none"> <li>Protection class IP of the terminal</li> </ul>	IP00
Shock resistance at rectangular impulse	
<ul style="list-style-type: none"> <li>at AC</li> </ul>	6,8g / 5 ms, 4g / 10 ms
Shock resistance with sine pulse	
<ul style="list-style-type: none"> <li>at AC</li> </ul>	10,6g / 5 ms, 6,2g / 10 ms
Mechanical service life (switching cycles)	

<ul style="list-style-type: none"> <li>• of contactor typical</li> </ul>	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>	4
<b>Number of NO contacts for main contacts</b>	4
<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>	140 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> </ul> </li> </ul>	140 A
<ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul>	120 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> </ul>	35 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• at 40 °C minimum permissible</li> </ul>	50 mm <sup>2</sup>
<b>Operating 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> </ul> </li> </ul>	80 A
<ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>	9 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> </ul> </li> </ul>	80 A
<ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>	80 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> </ul> </li> </ul>	80 A
<ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>	80 A
<b>Operating 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> </ul> </li> </ul>	20 A
<ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>	2.5 A

<ul style="list-style-type: none"> <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>	80 A 80 A 80 A 80 A
<b>Operating power</b>	
<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> </ul> </li> </ul>	53 kW 92 kW
<b>Thermal short-time current limited to 10 s</b>	600 A
<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> </ul>	1 000 1/h

### Control circuit/ Control

<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> <li>at 60 Hz rated value</li> </ul>	230 V 230 V
<b>control supply voltage frequency</b>	
<ul style="list-style-type: none"> <li>1 rated value</li> <li>2 rated value</li> </ul>	50 Hz 60 Hz
<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 0.85 ... 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>	
<ul style="list-style-type: none"> <li>at AC</li> </ul>	20 ... 50 ms
<b>Opening delay</b>	
<ul style="list-style-type: none"> <li>at AC</li> </ul>	10 ... 25 ms
<b>Arcing time</b>	10 ... 15 ms

### Auxiliary circuit

<b>Number of NC contacts for auxiliary contacts</b>	
<ul style="list-style-type: none"> <li>instantaneous contact</li> </ul>	0
<b>Number of NO contacts for auxiliary contacts</b>	
<ul style="list-style-type: none"> <li>instantaneous contact</li> </ul>	0

Operating current at AC-12 maximum	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)

#### UL/CSA ratings

<b>Contact rating of auxiliary contacts according to UL</b>	A600 / Q600
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#### Short-circuit protection

<b>Design of the fuse link</b>	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	fuse gL/gG: 250 A
— with type of assignment 2 required	fuse gL/gG: 160 A
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A

#### Installation/ mounting/ dimensions

<b>Mounting type</b>	screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail
• Side-by-side mounting	Yes
<b>Height</b>	146 mm
<b>Width</b>	93 mm
<b>Depth</b>	139 mm
<b>Required spacing</b>	
• for grounded parts	
— at the side	6 mm

#### Connections/ Terminals

• Type of electrical connection for main current circuit	screw-type terminals
• Type of electrical connection for auxiliary and control current circuit	screw-type terminals
<b>Type of connectable conductor cross-sections</b>	
• for main contacts	
— solid	2x (2.5 ... 16 mm <sup>2</sup> )

- stranded
- single or multi-stranded
- finely stranded with core end processing
- finely stranded without core end processing
- at AWG conductors for main contacts

2x (10 ... 50 mm<sup>2</sup>)  
 2x (2,5 ... 16 mm<sup>2</sup>)  
 2x (2.5 ... 35 mm<sup>2</sup>)  
 2x (10 ... 35 mm<sup>2</sup>)  
 2x (10 ... 1/0)





**Type of connectable conductor cross-sections**


- for auxiliary contacts
  - solid
  - finely stranded with core end processing
- at AWG conductors for auxiliary contacts

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

**Certificates/ approvals**

<b>General Product Approval</b>	<b>EMC</b>	<b>Functional Safety/Safety of Machinery</b>
 CCC  CSA  UL  EAC  RCM		<a href="#">Type Examination Certificate</a>

<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
 EG-Konf.	<a href="#">Miscellaneous</a> <a href="#">Special Test Certificate</a>	 ABS  LRS  RINA

<b>Marine / Shipping</b>	<b>other</b>	<b>Railway</b>
 RMRS	<a href="#">Confirmation</a> <a href="#">Miscellaneous</a>	<a href="#">Special Test Certificate</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=3RT1346-1AL20>

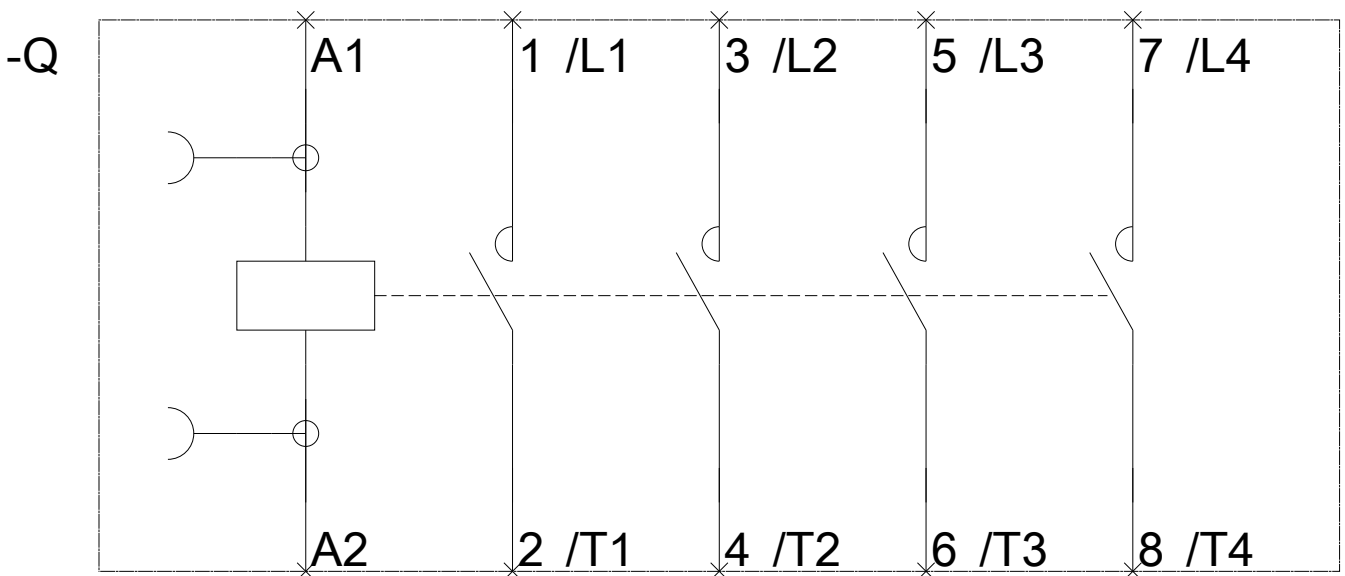
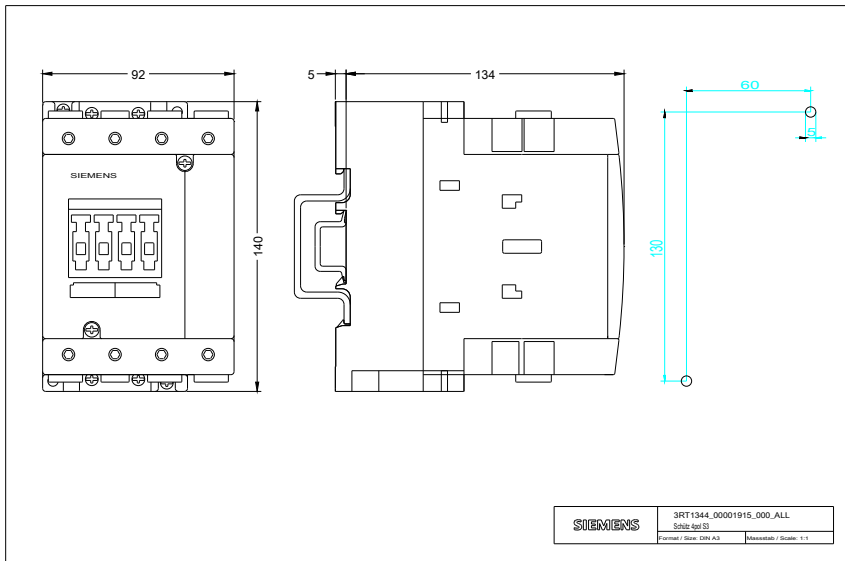
**Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1346-1AL20>

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1346-1AL20>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1346-1AL20&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1346-1AL20&lang=en)

Characteristic: Tripping characteristics,  $I^2t$ , Let-through current  
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1346-1AL20/char>

Further characteristics (e.g. electrical endurance, switching frequency)  
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1346-1AL20&objecttype=14&gridview=view1>



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