

Power contactor, AC-3 80 A, 37 kW / 400 V 110 V AC, 50 Hz, 2 NO + 2 NC 3-pole, Size S3 Screw terminal !!! Phased-out product !!!  
Successor is SIRIUS 3RT2 Preferred successor type is >>3RT2038-1AF04<<



Product brand name	SIRIUS
Product designation	power contactor
<b>General technical data</b>	
Size of contactor	S3
Insulation voltage <ul style="list-style-type: none"> <li>• 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
Protection class IP <ul style="list-style-type: none"> <li>• on the front</li> <li>• of the terminal</li> </ul>	IP20; IP20 on the front with cover / box terminal 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)	

• of contactor typical	10 000 000
• of the contactor with added electronics-compatible auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	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>	
• maximum	2 000 m
<b>Ambient temperature</b>	
• during operation	-25 ... +60 °C
• during storage	-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>	
• at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	120 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	120 A
— up to 690 V at ambient temperature 60 °C rated value	100 A
— up to 1000 V at ambient temperature 40 °C rated value	60 A
— up to 1000 V at ambient temperature 60 °C rated value	50 A
• at AC-3	
— at 400 V rated value	80 A
— at 690 V rated value	58 A
— at 1000 V rated value	30 A
• at AC-4 at 400 V rated value	66 A
<b>Connectable conductor cross-section in main circuit at AC-1</b>	
• at 60 °C minimum permissible	35 mm²
• at 40 °C minimum permissible	50 mm²
<b>Operating current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	34 A
• at 690 V rated value	22 A
<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> <li>— at 110 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> </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>	100 A 9 A  100 A 100 A  100 A 100 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> <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>	 40 A 2.5 A  100 A 100 A  100 A 100 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> <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>	 38 kW 66 kW 114 kW 114 kW 82 W 37 kW  22 kW 37 kW 45 kW 55 kW 37 W
<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>	 17.9 kW 21.1 kW
<b>Thermal short-time current limited to 10 s</b>	760 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>	900 1/h

• at AC-2 maximum	400 1/h
• at AC-3 maximum	1 000 1/h
• at AC-4 maximum	300 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	110 V
<b>Control supply voltage frequency</b>	
• 1 rated value	50 Hz
<b>Operating range factor control supply voltage rated value of magnet coil at AC</b>	
• at 50 Hz	0.8 ... 1.1
<b>Apparent pick-up power of magnet coil at AC</b>	270 V·A
<b>Inductive power factor with closing power of the coil</b>	0.68
<b>Apparent holding power of magnet coil at AC</b>	22 V·A
<b>Inductive power factor with the holding power of the coil</b>	0.27
<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	2
<b>Number of NO contacts for auxiliary contacts</b>	
• instantaneous contact	2
<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)

## UL/CSA ratings

### Contact rating of auxiliary contacts according to UL

A600 / Q600

## Short-circuit protection

### Design of the fuse link

- for short-circuit protection of the main circuit
  - with type of coordination 1 required
  - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

fuse gL/gG: 250 A

fuse gL/gG: 160 A

fuse gL/gG: 10 A

## Installation/ mounting/ dimensions

### Mounting type

screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail

- Side-by-side mounting

Yes

### Height

146 mm

### Width

70 mm

### Depth

188 mm

### Required spacing

- for grounded parts
  - at the side

6 mm

## Connections/ Terminals

### Type of electrical connection

- for main current circuit
- for auxiliary and control current circuit

screw-type terminals

screw-type terminals

### Type of connectable conductor cross-sections

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

2x (2.5 ... 16 mm<sup>2</sup>)

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

General Product Approval	EMC	Functional Safety/Safety of Machinery
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CCC



CSA



UL



RCM

[Type Examination Certificate](#)

Declaration of Conformity	Test Certificates	Marine / Shipping
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EG-Konf.

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



LRS

Marine / Shipping	other	Railway
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RINA



RMRS

[Confirmation](#)

[Miscellaneous](#)

[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=3RT1045-1AF04>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1045-1AF04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1045-1AF04>

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

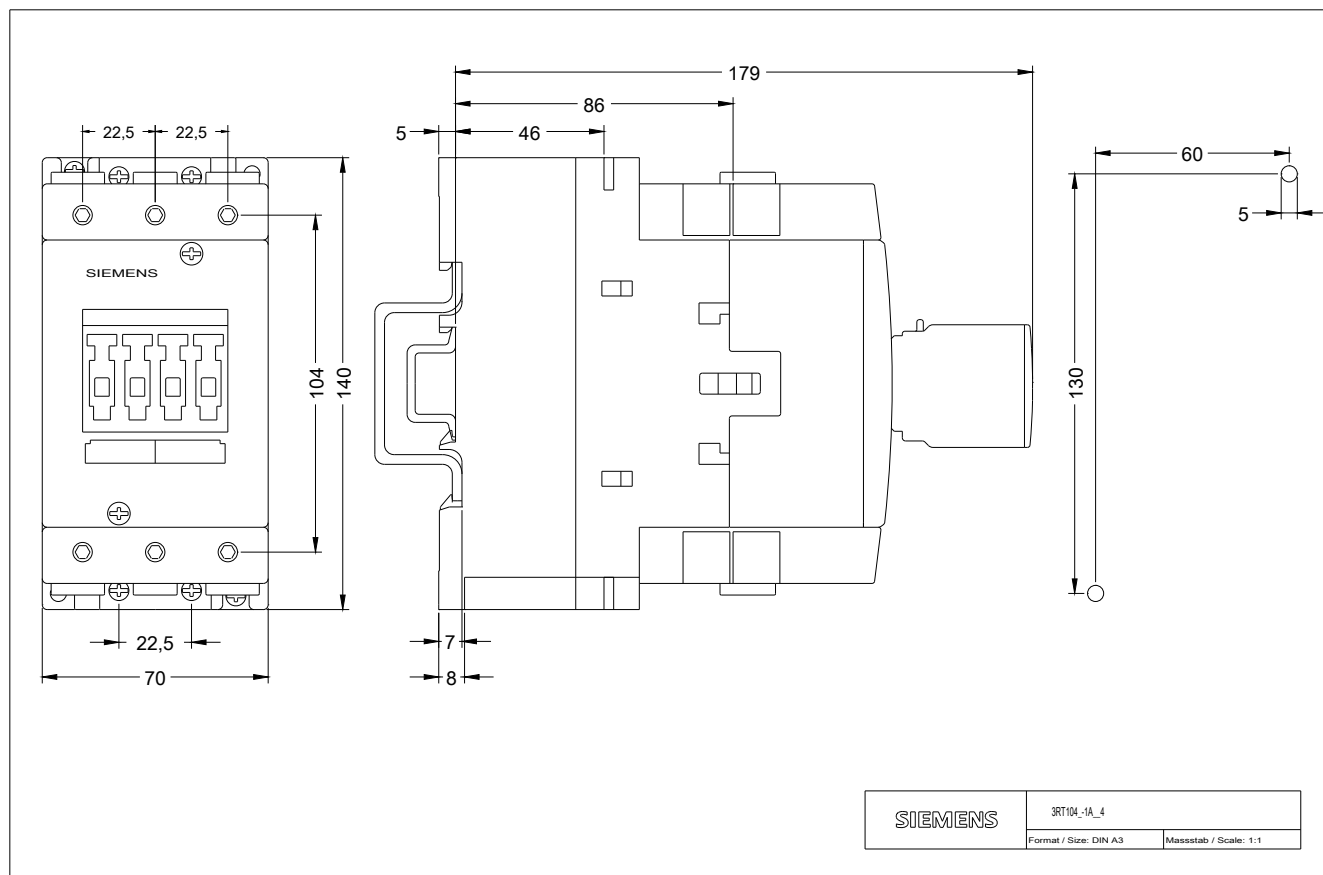
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1045-1AF04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1045-1AF04&lang=en)

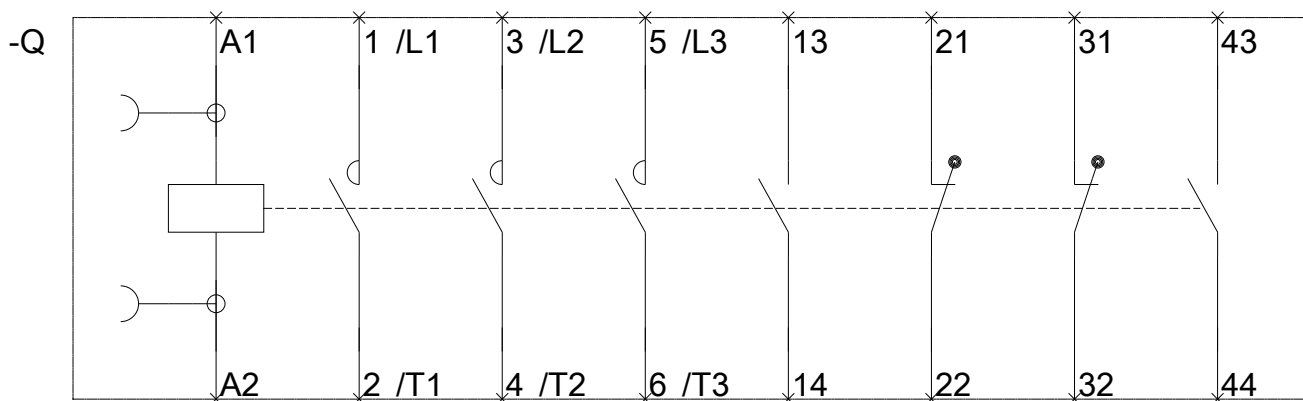
##### Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1045-1AF04/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1045-1AF04&objecttype=14&gridview=view1>





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