



contactor AC-1, 18 A, 400 V / 40 °C, 4-pole, 12 V DC, screw terminal

product brand name	SIRIUS
product designation	Contactor
product type designation	3RT23

### General technical data

size of contactor	S00
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	4.4 W
• at AC in hot operating state per pole	1.1 W
• without load current share typical	4 W
insulation voltage	
• of main circuit with degree of pollution 3 rated value	690 V
• of the auxiliary and control 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
shock resistance at rectangular impulse	
• at DC	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at DC	10,5g / 5 ms, 6,6g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical	30 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009

### Ambient conditions

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 %

### Main circuit

number of poles for main current circuit	4
number of NO contacts for main contacts	4
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C	18 A

<p>rated value</p> <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> </ul> </li> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> <li>• at AC-4 at 400 V rated value</li> </ul> <p>minimum cross-section in main circuit at maximum AC-1 rated value</p> <p><b>operating power</b></p> <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> <li>• at AC-4 at 400 V rated value</li> </ul> <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><b>no-load switching frequency</b></p> <ul style="list-style-type: none"> <li>• at DC</li> </ul> <p>operating frequency at AC-1 maximum</p>	<p>18 A</p> <p>16 A</p> <p>9 A</p> <p>8.5 A</p> <p>2.5 mm²</p> <p>4 kW</p> <p>4 kW</p> <p>Use minimum cross-section acc. to AC-1 rated value</p> <p>Use minimum cross-section acc. to AC-1 rated value</p> <p>Use minimum cross-section acc. to AC-1 rated value</p> <p>Use minimum cross-section acc. to AC-1 rated value</p> <p>Use minimum cross-section acc. to AC-1 rated value</p> <p>10 000 1/h</p> <p>1 000 1/h</p>
<b>Control circuit/ Control</b>	
<p><b>type of voltage</b></p> <p><b>type of voltage of the control supply voltage</b></p> <p><b>control supply voltage at DC</b></p> <ul style="list-style-type: none"> <li>• rated value</li> </ul> <p><b>operating range factor control supply voltage rated value of magnet coil at DC</b></p> <ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul> <p><b>closing power of magnet coil at DC</b></p> <p><b>holding power of magnet coil at DC</b></p> <p><b>closing delay</b></p> <ul style="list-style-type: none"> <li>• at DC</li> </ul> <p><b>opening delay</b></p> <ul style="list-style-type: none"> <li>• at DC</li> </ul> <p><b>arcing time</b></p> <p><b>control version of the switch operating mechanism</b></p>	<p>DC</p> <p>DC</p> <p>12 V</p> <p>0.8</p> <p>1.1</p> <p>4 W</p> <p>4 W</p> <p>30 ... 100 ms</p> <p>7 ... 13 ms</p> <p>10 ... 15 ms</p> <p>Standard A1 - A2</p>
<b>Auxiliary circuit</b>	
<p><b>number of NC contacts for auxiliary contacts</b></p> <ul style="list-style-type: none"> <li>• attachable</li> </ul> <p><b>number of NO contacts for auxiliary contacts</b></p> <ul style="list-style-type: none"> <li>• attachable</li> </ul>	<p>2</p> <p>2</p>
<b>Short-circuit protection</b>	
<p><b>product function short circuit protection</b></p> <p><b>design of the fuse link</b></p> <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>No</p> <p>gG: 35 A (690 V, 100 kA)</p> <p>gG: 20 A (690 V, 100 kA)</p> <p>gG: 10 A (690 V, 1 kA)</p>
<b>Installation/ mounting/ dimensions</b>	
<p><b>mounting position</b></p> <p><b>fastening method</b></p> <ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul> <p><b>height</b></p> <p><b>width</b></p> <p><b>depth</b></p> <p><b>required spacing</b></p>	<p>+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface</p> <p>screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715</p> <p>Yes</p> <p>58 mm</p> <p>45 mm</p> <p>73 mm</p>

- 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

### type of electrical connection

- for main current circuit
- for auxiliary and control circuit
- at contactor for auxiliary contacts
- of magnet coil

screw-type terminals  
screw-type terminals  
Screw-type terminals  
Screw-type terminals

type of connectable conductor cross-sections for main contacts

- solid
- solid or stranded
- finely stranded with core end processing

2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>), 2x 4 mm<sup>2</sup>  
2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>), 2x 4 mm<sup>2</sup>  
2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)

### connectable conductor cross-section for main contacts

- solid
- solid or stranded
- stranded
- finely stranded with core end processing

0.5 ... 4 mm<sup>2</sup>  
0.5 ... 4 mm<sup>2</sup>  
0.5 ... 4 mm<sup>2</sup>  
0.5 ... 2.5 mm<sup>2</sup>

### connectable conductor cross-section for auxiliary contacts

- solid or stranded
- finely stranded with core end processing

0.5 ... 4 mm<sup>2</sup>  
0.5 ... 2.5 mm<sup>2</sup>

### type of connectable conductor cross-sections

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

2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)  
2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>), 2x 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), 2x 12

### AWG number as coded connectable conductor cross section

- for main contacts
- for auxiliary contacts

20 ... 12  
20 ... 12

## Safety related data

### product function

- mirror contact according to IEC 60947-4-1

T1 value for proof test interval or service life according to IEC 61508

Yes; with 3RH29  
20 a

### protection class IP on the front according to IEC 60529

IP20

### touch protection on the front according to IEC 60529

finger-safe, for vertical contact from the front

## Communication/ Protocol

### product function bus communication

No

## Certificates/ approvals

General Product Approval

EMC



[Confirmation](#)



Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates		Marine / Shipping
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[Type Examination Certificate](#)



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



#### Marine / Shipping



other	Railway	Dangerous Good	Environment
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[Confirmation](#)



[Vibration and Shock](#)

[Transport Information](#)

[Environmental Conformations](#)

#### 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=3RT2316-1BA40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2316-1BA40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2316-1BA40>

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

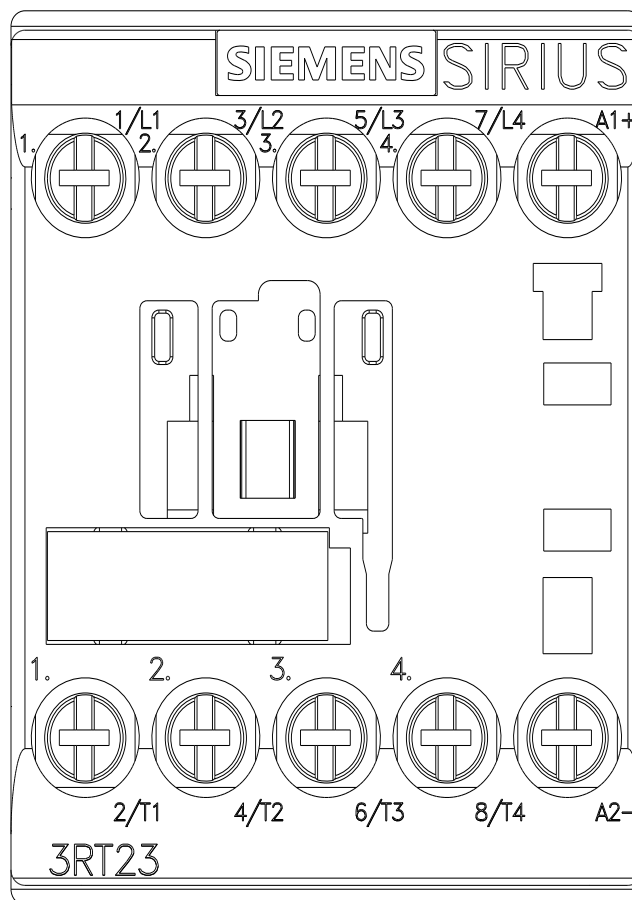
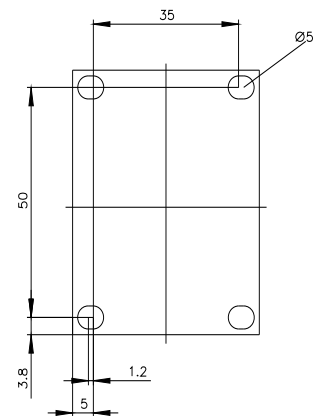
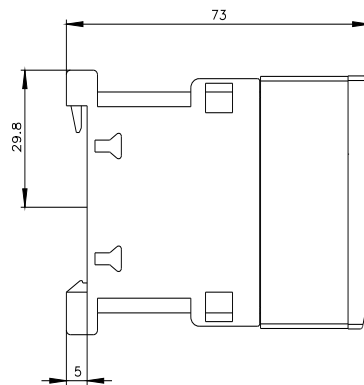
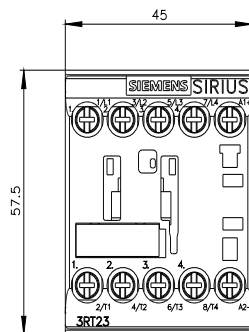
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2316-1BA40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2316-1BA40&lang=en)

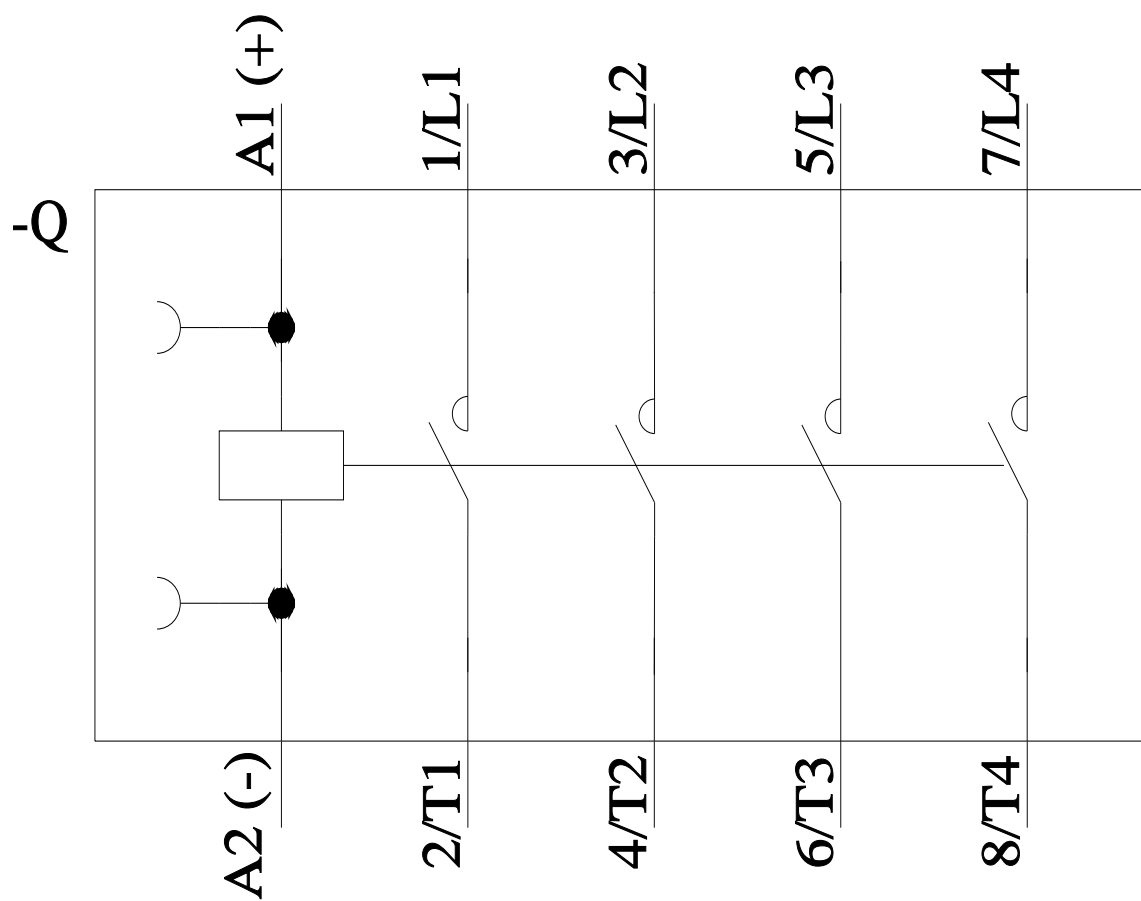
Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2316-1BA40/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2316-1BA40&objecttype=14&gridview=view1>





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