

Contactor, AC-1, 110 A/400 V/40 °C, S2, 4-pole, 175-280 V AC/DC, with varistor, 1 NO+1 NC, screw terminal



Product brand name	SIRIUS
Product designation	Contactor
Product type designation	3RT23
<b>General technical data</b>	
Size of contactor	S2
Product extension	
• function module for communication	No
• Auxiliary switch	Yes
Surge voltage resistance	
• of main circuit rated value	6 kV
• of auxiliary circuit rated value	6 kV
Protection class IP	
• on the front	IP20
• of the terminal	IP00
Shock resistance at rectangular impulse	
• at AC	7.7g / 5 ms, 4.5g / 10 ms
• at DC	7.7g / 5 ms, 4.5g / 10 ms
Shock resistance with sine pulse	
• at AC	12g / 5 ms, 7g / 10 ms

• at DC	12g / 5 ms, 7g / 10 ms
<b>Mechanical service life (switching cycles)</b>	
• of contactor typical	10 000 000
• of the contactor with added auxiliary switch block typical	100 000 000
<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>Relative humidity</b>	
• during operation	95 %

### Main circuit

<b>Number of poles for main current circuit</b>	4
<b>Number of NO contacts for main contacts</b>	4
<b>Operating voltage</b>	
• at AC	
— at 50 Hz rated value	690 V
— at 60 Hz rated value	690 V
<b>Operating current</b>	
• at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	110 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	110 A
— up to 690 V at ambient temperature 60 °C rated value	95 A
• at AC-3	
— at 400 V rated value	38 A
<b>Minimum cross-section in main circuit</b>	
• at maximum AC-1 rated value	35 mm <sup>2</sup>
<b>No-load switching frequency</b>	
• at AC	1 500 1/h
• at DC	1 500 1/h
<b>Operating frequency</b>	
• at AC-1 maximum	700 1/h

### Control circuit/ Control

<b>Type of voltage</b>	AC/DC
<b>Type of voltage of the control supply voltage</b>	AC/DC
<b>Control supply voltage at AC</b>	
• at 50 Hz rated value	175 ... 280 V
• at 60 Hz rated value	175 ... 280 V

<b>Control supply voltage</b>	
• at DC rated value	175 ... 280 V
<b>Operating range factor control supply voltage rated value of magnet coil at DC</b>	
• initial value	0.8
• Full-scale value	1.1
<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	0.8 ... 1.1
<b>Design of the surge suppressor</b>	with varistor
<b>Apparent pick-up power of magnet coil at AC</b>	
• at 50 Hz	40 V·A
• at 60 Hz	40 V·A
<b>Apparent holding power of magnet coil at AC</b>	
• at 50 Hz	2 V·A
• at 60 Hz	2 V·A
<b>Closing power of magnet coil at DC</b>	23 W
<b>Holding power of magnet coil at DC</b>	1 W
<b>Closing delay</b>	
• at AC	45 ... 70 ms
• at DC	45 ... 60 ms
<b>Opening delay</b>	
• at AC	35 ... 55 ms
• at DC	35 ... 55 ms
<b>Arcing time</b>	10 ... 20 ms
<b>Control version of the switch operating mechanism</b>	Standard A1 - A2

Auxiliary circuit	
<b>Number of NC contacts for auxiliary contacts</b>	1
• attachable	2
• instantaneous contact	1
<b>Number of NO contacts for auxiliary contacts</b>	1
• attachable	2
• instantaneous contact	1
<b>Operating current at AC-12</b>	
• maximum	10 A
<b>Operating current at AC-15</b>	
• at 230 V rated value	10 A
• at 400 V rated value	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
<b>Operating current at DC-12</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>	<p>10 A</p> <p>6 A</p> <p>6 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p> <p>0.15 A</p>
<b>Operating 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 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>	<p>10 A</p> <p>2 A</p> <p>1 A</p> <p>0.9 A</p> <p>0.3 A</p> <p>0.1 A</p>
<b>Design of the miniature circuit breaker</b> <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>	<p>gG: 10 A (230 V, 400 A)</p>
<b>Contact reliability of auxiliary contacts</b>	<p>1 faulty switching per 100 million (17 V, 1 mA)</p>

#### UL/CSA ratings

<b>Contact rating of auxiliary contacts according to UL</b>	<p>A600 / P600</p>
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#### Short-circuit protection

<b>Product function Short circuit protection</b>	<p>No</p>
<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>gG: 160 A (690 V, 100 kA)</p> <p>gR: 80 A (690 V, 100 kA)</p> <p>gG: 10 A (690 V, 1 kA)</p>

#### Installation/ mounting/ dimensions

<b>Mounting position</b>	<p>+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface</p>
<b>Mounting type</b> <ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>	<p>screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715</p> <p>Yes</p>
<b>Height</b>	<p>114 mm</p>
<b>Width</b>	<p>75 mm</p>
<b>Depth</b>	<p>130 mm</p>
<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> </ul> </li> </ul>	<p>10 mm</p> <p>10 mm</p>

— 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

<b>Type of electrical connection</b>	
• for main current circuit	screw-type terminals
• for auxiliary and control current circuit	screw-type terminals
<b>Type of connectable conductor cross-sections</b>	
• for main contacts	
— single or multi-stranded	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )
• at AWG conductors for main contacts	2x (18 ... 2), 1x (18 ... 1)
<b>Connectable conductor cross-section for main contacts</b>	
• single or multi-stranded	1 ... 50 mm <sup>2</sup>
• finely stranded with core end processing	1 ... 35 mm <sup>2</sup>
<b>Connectable conductor cross-section for auxiliary contacts</b>	
• single or multi-stranded	0.5 ... 2.5 mm <sup>2</sup>
• finely stranded with core end processing	0.5 ... 2.5 mm <sup>2</sup>
• finely stranded without core end processing	0.5 ... 2.5 mm <sup>2</sup>
<b>Type of connectable conductor cross-sections</b>	
• for auxiliary contacts	
— solid	2x (0.5 ... 1,5mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
— single or multi-stranded	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
• at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
<b>AWG number as coded connectable conductor cross section</b>	
• for main contacts	18 ... 1
• for auxiliary contacts	20 ... 14

## Safety related data

<b>Product function</b>	
• Mirror contact acc. to IEC 60947-4-1	Yes
• positively driven operation acc. to IEC 60947-5-1	No
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<b>Protection against electrical shock</b>	finger-safe when touched vertically from front acc. to IEC 60529

#### Communication/ Protocol

<b>Product function Bus communication</b>	No
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#### Certificates/ approvals

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

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

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



<b>Marine / Shipping</b>	<b>other</b>
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[Confirmation](#)

#### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

[www.siemens.com/sirius/catalogs](http://www.siemens.com/sirius/catalogs)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2337-1NP30>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2337-1NP30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2337-1NP30>

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

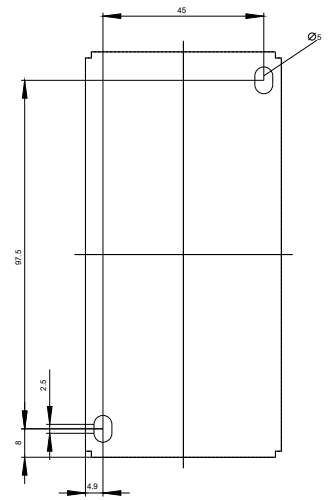
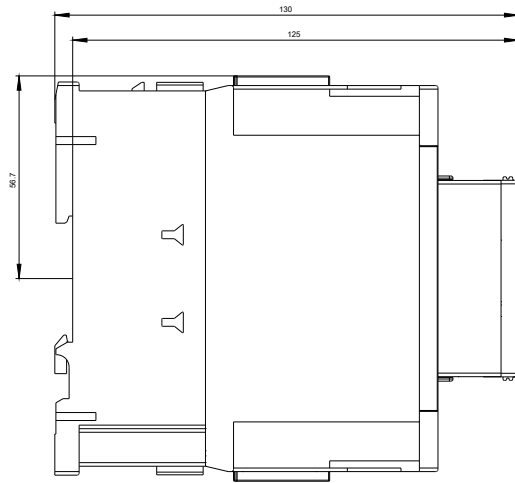
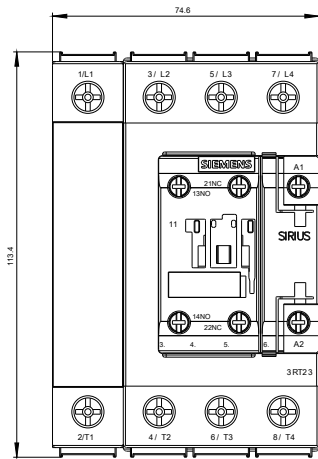
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2337-1NP30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2337-1NP30&lang=en)

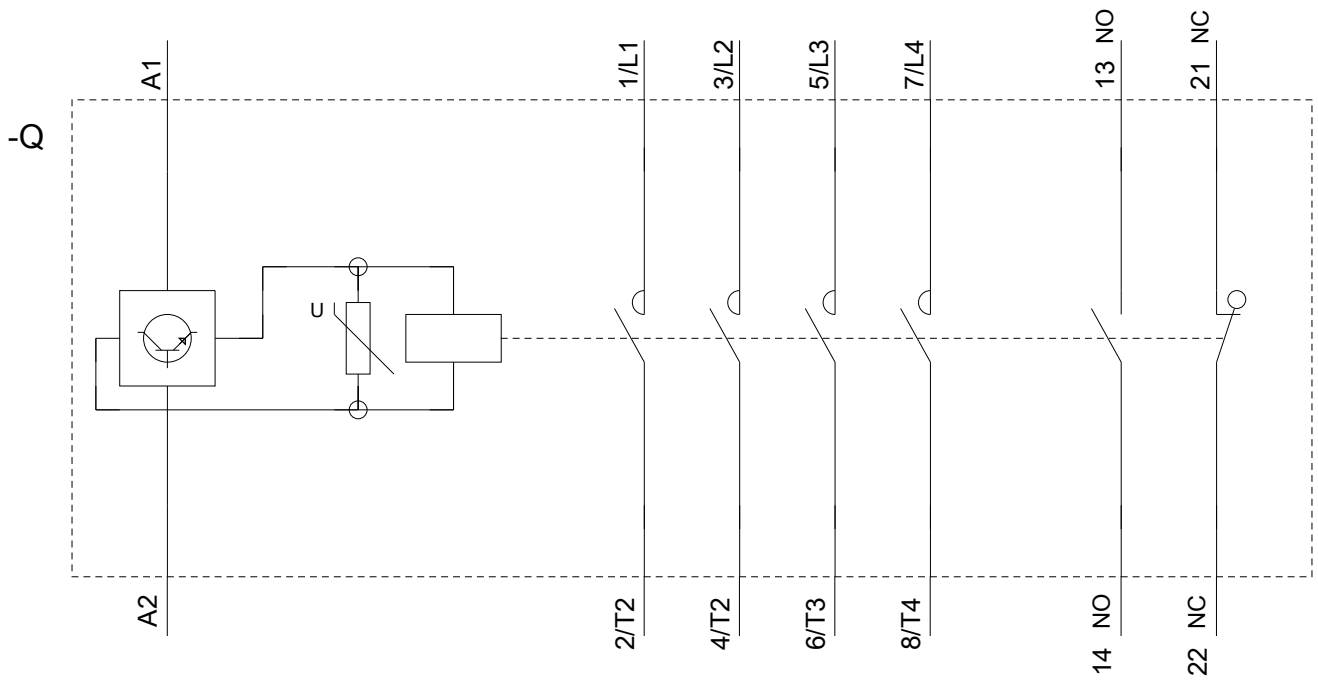
**Characteristic: Tripping characteristics, I<sup>t</sup>, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2337-1NP30/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2337-1NP30&objecttype=14&gridview=view1>





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