

Contactor, AC-1, 110 A/400 V/40 °C, S2, 4-pole, 20-33 V AC/DC, with varistor, 1 NO+1 NC, screw terminal



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

General technical data	
Size of contactor	S2
Product extension	
<ul style="list-style-type: none"> <li>function module for communication</li> </ul>	No
<ul style="list-style-type: none"> <li>Auxiliary switch</li> </ul>	Yes
Surge voltage resistance	
<ul style="list-style-type: none"> <li>of main circuit rated value</li> </ul>	6 kV
<ul style="list-style-type: none"> <li>of auxiliary circuit rated value</li> </ul>	6 kV
Protection class IP	
<ul style="list-style-type: none"> <li>on the front</li> </ul>	IP20
<ul style="list-style-type: none"> <li>of the terminal</li> </ul>	IP00
Shock resistance at rectangular impulse	
<ul style="list-style-type: none"> <li>at AC</li> </ul>	7.7g / 5 ms, 4.5g / 10 ms
<ul style="list-style-type: none"> <li>at DC</li> </ul>	7.7g / 5 ms, 4.5g / 10 ms
Shock resistance with sine pulse	
<ul style="list-style-type: none"> <li>at AC</li> </ul>	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>Short-time withstand current in cold operating state up to 40 °C</b>	
• limited to 1 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
• limited to 5 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
• limited to 10 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
<b>No-load switching frequency</b>	

<ul style="list-style-type: none"> <li>• at AC</li> </ul>	1 500 1/h
<ul style="list-style-type: none"> <li>• at DC</li> </ul>	1 500 1/h
<b>Operating frequency</b>	
<ul style="list-style-type: none"> <li>• at AC-1 maximum</li> </ul>	700 1/h
<b>Control circuit/ Control</b>	
<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>	
<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>	20 ... 33 V
<ul style="list-style-type: none"> <li>• at 60 Hz rated value</li> </ul>	20 ... 33 V
<b>Control supply voltage</b>	
<ul style="list-style-type: none"> <li>• at DC rated value</li> </ul>	20 ... 33 V
<b>Operating range factor control supply voltage rated value of magnet coil at DC</b>	
<ul style="list-style-type: none"> <li>• initial value</li> </ul>	0.8
<ul style="list-style-type: none"> <li>• Full-scale value</li> </ul>	1.1
<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> </ul>	0.8 ... 1.1
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	0.8 ... 1.1
<b>Design of the surge suppressor</b>	with varistor
<b>Inrush current peak</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	2.8 A
<b>Duration of inrush current peak</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	15 µs
<b>Apparent pick-up power of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	40 V·A
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	40 V·A
<b>Apparent holding power of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	2 V·A
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	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>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	45 ... 70 ms
<ul style="list-style-type: none"> <li>• at DC</li> </ul>	45 ... 60 ms
<b>Opening delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	35 ... 55 ms
<ul style="list-style-type: none"> <li>• at DC</li> </ul>	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>	
• at 24 V rated value	10 A
• at 48 V rated value	6 A
• at 60 V rated value	6 A
• at 110 V rated value	3 A
• at 125 V rated value	2 A
• at 220 V rated value	1 A
• at 600 V rated value	0.15 A
<b>Operating current at DC-13</b>	
• at 24 V rated value	10 A
• at 48 V rated value	2 A
• at 110 V rated value	1 A
• at 125 V rated value	0.9 A
• at 220 V rated value	0.3 A
• at 600 V rated value	0.1 A
<b>Design of the miniature circuit breaker</b>	
• for short-circuit protection of the auxiliary switch required	gG: 10 A (230 V, 400 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 / P600
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#### Short-circuit protection

<b>Product function Short circuit protection</b>	No
<b>Design of the fuse link</b>	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 160 A (690 V, 100 kA)
— with type of assignment 2 required	gR: 80 A (690 V, 100 kA)

- for short-circuit protection of the auxiliary switch required

gG: 10 A (690 V, 1 kA)

### Installation/ mounting/ dimensions

<b>Mounting position</b>	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
<b>Mounting type</b>	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
<ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>	Yes
<b>Height</b>	114 mm
<b>Width</b>	75 mm
<b>Depth</b>	130 mm
<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> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts           <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts           <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>	10 mm 10 mm 10 mm 0 mm  10 mm 10 mm 6 mm 10 mm  10 mm 10 mm 10 mm 6 mm

### Connections/ Terminals

<b>Type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control current circuit</li> </ul>	screw-type terminals screw-type terminals
<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>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for main contacts</li> </ul>	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> ) 2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> ) 2x (18 ... 2), 1x (18 ... 1)
<b>Connectable conductor cross-section for main contacts</b>	
<ul style="list-style-type: none"> <li>• single or multi-stranded</li> <li>• finely stranded with core end processing</li> </ul>	1 ... 50 mm <sup>2</sup> 1 ... 35 mm <sup>2</sup>

<b>Connectable conductor cross-section for auxiliary contacts</b>	
<ul style="list-style-type: none"> <li>• single or multi-stranded</li> <li>• finely stranded with core end processing</li> <li>• finely stranded without core end processing</li> </ul>	<p>0.5 ... 2.5 mm<sup>2</sup></p> <p>0.5 ... 2.5 mm<sup>2</sup></p> <p>0.5 ... 2.5 mm<sup>2</sup></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>— single or multi-stranded</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>)</p> <p>2x (0,5 ... 1,5 mm<sup>2</sup>), 2x (0,75 ... 2,5 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)</p>
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary contacts</li> </ul>	<p>18 ... 1</p> <p>20 ... 14</p>

### Safety related data

<b>Product function</b>	
<ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> <li>• positively driven operation acc. to IEC 60947-5-1</li> </ul>	<p>Yes</p> <p>No</p>
<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

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](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other
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[Confirmation](#)

#### 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=3RT2337-1NB30>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2337-1NB30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2337-1NB30>

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

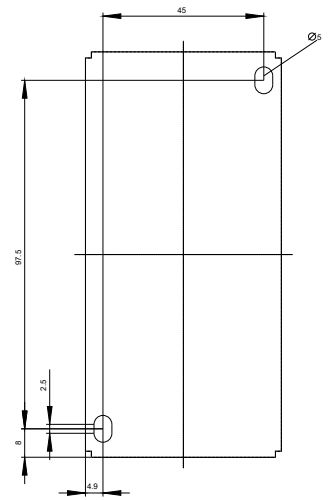
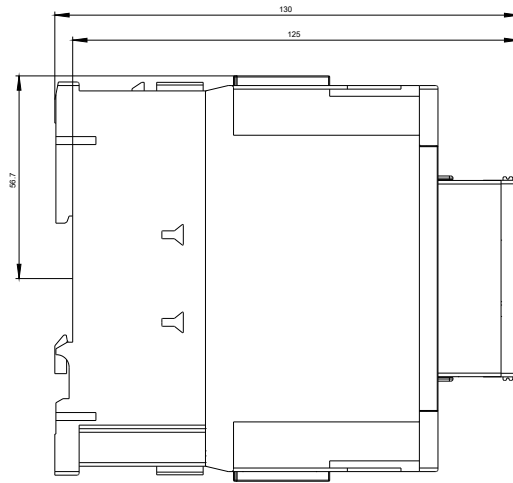
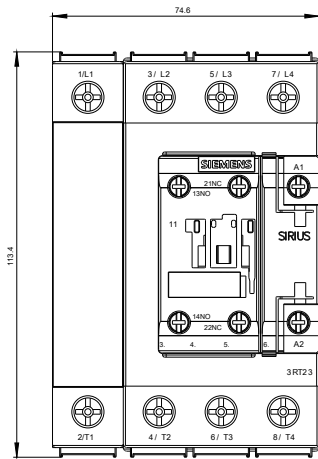
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2337-1NB30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2337-1NB30&lang=en)

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

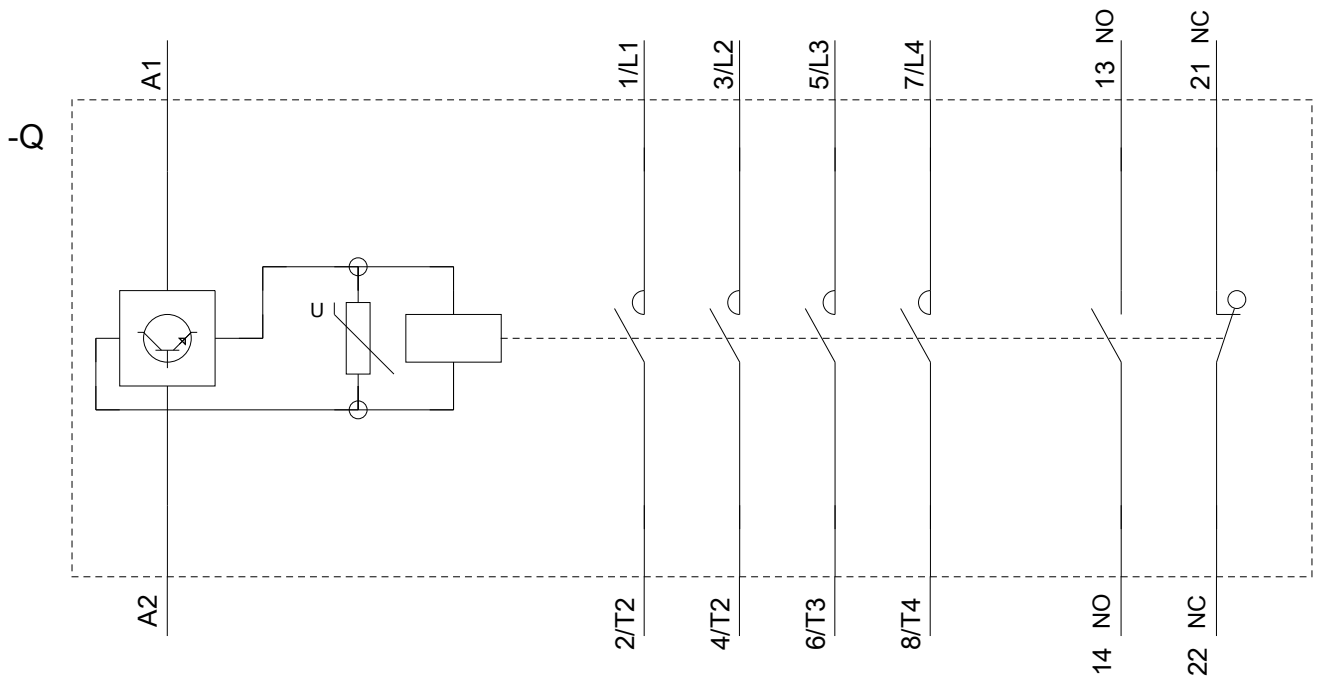
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2337-1NB30/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2337-1NB30&objecttype=14&gridview=view1>







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