

Vacuum contactor, AC-3 300 A, 160 kW / 400 V AC (50-60 Hz) / DC operation 500-550 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S10 Busbar connections Drive: conventional



product brand name	SIRIUS
Product designation	Vacuum contactor
Product type designation	3RT12
<b>General technical data</b>	
Size of contactor	S10
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	42 W
• at AC in hot operating state per pole	14 W
Power loss [W] for rated value of the current without load current share typical	8.2 W
Surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation	
• between coil and main contacts acc. to EN 60947-1	690 V

<ul style="list-style-type: none"> <li>• protection class IP on the front</li> <li>• Protection class IP of the terminal</li> </ul>	IP00; IP20 on the front with cover / box terminal IP00
<b>Shock resistance at rectangular impulse</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	8,5g / 5 ms, 4,2g / 10 ms 8,5g / 5 ms, 4,2g / 10 ms
<b>Shock resistance with sine pulse</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	13,4g / 5 ms, 6,5g / 10 ms 13,4g / 5 ms, 6,5g / 10 ms
<b>Mechanical service life (switching cycles)</b> <ul style="list-style-type: none"> <li>• of contactor typical</li> <li>• of the contactor with added electronics-compatible auxiliary switch block typical</li> <li>• of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000 5 000 000 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> <li>• during storage</li> </ul>	-25 ... +60 °C -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>Operating voltage</b> <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>	1 000 V
<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> <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> <li>— up to 1000 V at ambient temperature 40 °C rated value</li> <li>— up to 1000 V at ambient temperature 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 400 V rated value</li> <li>— at 500 V rated value</li> </ul> </li> </ul>	330 A 330 A 300 A 330 A 300 A 300 A 300 A 300 A

— at 690 V rated value	300 A
— at 1000 V rated value	300 A
• at AC-4 at 400 V rated value	280 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	300 A
— up to 400 V for current peak value n=20 rated value	300 A
— up to 500 V for current peak value n=20 rated value	300 A
— up to 690 V for current peak value n=20 rated value	300 A
— up to 1000 V for current peak value n=20 rated value	300 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	209 A
— up to 400 V for current peak value n=30 rated value	209 A
— up to 500 V for current peak value n=30 rated value	209 A
— up to 690 V for current peak value n=30 rated value	209 A
— up to 1000 V for current peak value n=30 rated value	209 A
<b>Minimum cross-section in main circuit</b>	
• at maximum AC-1 rated value	185 mm <sup>2</sup>
<b>Operating current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	140 A
• at 690 V rated value	98 A
<b>Operating power</b>	
• at AC-2 at 400 V rated value	160 kW
• at AC-3	
— at 230 V rated value	90 kW
— at 400 V rated value	160 kW
— at 500 V rated value	200 kW
— at 690 V rated value	250 kW
— at 1000 V rated value	400 kW
<b>Operating power for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	79 kW
• at 690 V rated value	138 kW
<b>Operating apparent output at AC-6a</b>	

<ul style="list-style-type: none"> <li>• up to 230 V for current peak value n=20 rated value</li> </ul>	120 000 kV·A
<ul style="list-style-type: none"> <li>• up to 400 V for current peak value n=20 rated value</li> </ul>	200 000 V·A
<ul style="list-style-type: none"> <li>• up to 500 V for current peak value n=20 rated value</li> </ul>	260 000 V·A
<ul style="list-style-type: none"> <li>• up to 690 V for current peak value n=20 rated value</li> </ul>	350 000 V·A
<ul style="list-style-type: none"> <li>• up to 1000 V for current peak value n=20 rated value</li> </ul>	520 000 V·A
<b>Operating apparent output at AC-6a</b>	
<ul style="list-style-type: none"> <li>• up to 230 V for current peak value n=30 rated value</li> </ul>	80 000 V·A
<ul style="list-style-type: none"> <li>• up to 400 V for current peak value n=30 rated value</li> </ul>	140 000 V·A
<ul style="list-style-type: none"> <li>• up to 500 V for current peak value n=30 rated value</li> </ul>	180 000 V·A
<ul style="list-style-type: none"> <li>• up to 690 V for current peak value n=30 rated value</li> </ul>	250 000 V·A
<ul style="list-style-type: none"> <li>• up to 1000 V for current peak value n=30 rated value</li> </ul>	360 000 V·A
<b>No-load switching frequency</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	2 000 1/h
<ul style="list-style-type: none"> <li>• at DC</li> </ul>	2 000 1/h
<b>Operating frequency</b>	
<ul style="list-style-type: none"> <li>• at AC-1 maximum</li> </ul>	750 1/h
<ul style="list-style-type: none"> <li>• at AC-2 maximum</li> </ul>	250 1/h
<ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>	750 1/h
<ul style="list-style-type: none"> <li>• at AC-4 maximum</li> </ul>	250 1/h
<b>Control circuit/ Control</b>	
<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>	500 ... 550 V
<ul style="list-style-type: none"> <li>• at 60 Hz rated value</li> </ul>	500 ... 550 V
<b>Control supply voltage at DC</b>	
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	500 ... 550 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

• 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	590 V·A
<b>Inductive power factor with closing power of the coil</b>	
• at 50 Hz	0.9
<b>Apparent holding power of magnet coil at AC</b>	
• at 50 Hz	6.1 V·A
<b>Inductive power factor with the holding power of the coil</b>	
• at 50 Hz	0.9
<b>Closing power of magnet coil at DC</b>	700 W
<b>Holding power of magnet coil at DC</b>	8.2 W
<b>Closing delay</b>	
• at AC	30 ... 95 ms
• at DC	30 ... 95 ms
<b>Opening delay</b>	
• at AC	40 ... 80 ms
• at DC	40 ... 80 ms
<b>Arcing time</b>	10 ... 15 ms
<b>Control version of the switch operating mechanism</b>	Standard A1 - A2

#### 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
• 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

<ul style="list-style-type: none"> <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>2 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>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)

### UL/CSA ratings

<b>Full-load current (FLA) for three-phase AC motor</b>	
<ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>	<p>302 A</p> <p>289 A</p>
<b>Yielded mechanical performance [hp]</b>	
<ul style="list-style-type: none"> <li>• for three-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> <li>— at 220/230 V rated value</li> <li>— at 460/480 V rated value</li> <li>— at 575/600 V rated value</li> </ul> </li> </ul>	<p>100 hp</p> <p>125 hp</p> <p>250 hp</p> <p>300 hp</p>
<b>Contact rating of auxiliary contacts according to UL</b>	A600 / Q600

### Short-circuit protection

<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: 500 A (690 V, 100 kA)</p> <p>gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA)</p> <p>gG: 10 A (500 V, 1 kA)</p>

### Installation/ mounting/ dimensions

<ul style="list-style-type: none"> <li>• <b>mounting position</b></li> </ul>	+/-22,5° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; standing, on horizontal mounting surface
<b>Mounting type</b>	screw fixing
<ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>	Yes
<b>Height</b>	210 mm
<b>Width</b>	145 mm
<b>Depth</b>	206 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> </ul>	<p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p>

• for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm

## Connections/ Terminals

<b>Width of connection bar</b>	25 mm
<b>Thickness of connection bar</b>	6 mm
<b>Diameter of holes</b>	11 mm
<b>Number of holes</b>	1
• Type of electrical connection for main current circuit	Connection bar
• Type of electrical connection for auxiliary and control current circuit	screw-type terminals
• Type of electrical connection at contactor for auxiliary contacts	Screw-type terminals
• Type of electrical connection of magnet coil	Screw-type terminals
<b>Type of connectable conductor cross-sections</b>	
• at AWG conductors for main contacts	2/0 ... 500 kcmil
<b>Connectable conductor cross-section for main contacts</b>	
• stranded	70 ... 240 mm <sup>2</sup>
<b>Connectable conductor cross-section for auxiliary contacts</b>	
• single or multi-stranded	0.5 ... 4 mm <sup>2</sup>
• finely stranded with 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 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), max. 2x (0.75 ... 4 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> ), max. 2x (0,75 ... 4 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), 1x 12
<b>AWG number as coded connectable conductor cross section</b>	
• for auxiliary contacts	18 ... 14

## Safety related data

### Product function

- Mirror contact acc. to IEC 60947-4-1
- positively driven operation acc. to IEC 60947-5-1

Yes
No

<b>Protection against electrical shock</b>	finger-safe when touched vertically from front acc. to IEC 60529
Suitability for use safety-related switching OFF	Yes

**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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EG-Konf.

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[Confirmation](#)

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**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=3RT1266-6AS36>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1266-6AS36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1266-6AS36>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1266-6AS36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1266-6AS36&lang=en)

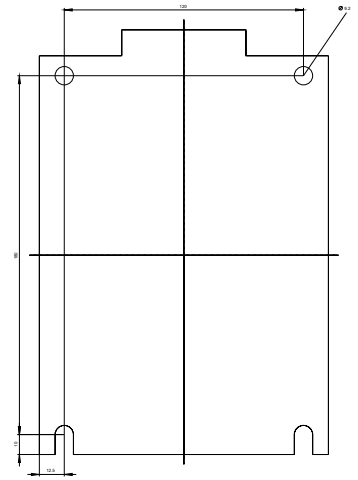
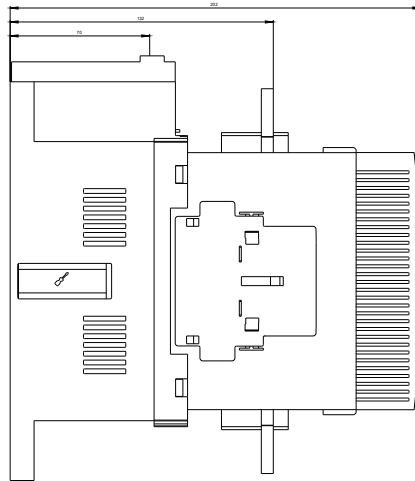
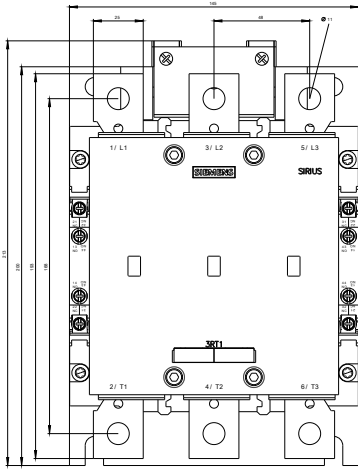
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

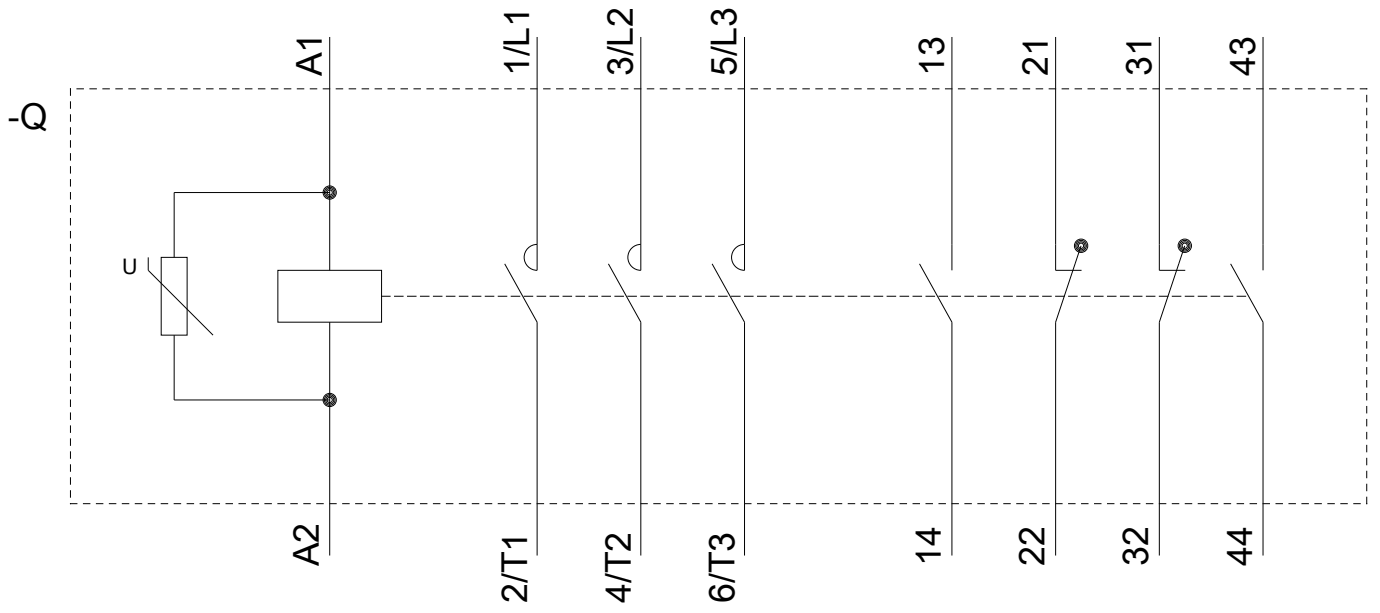
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1266-6AS36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1266-6AS36&objectype=14&gridview=view1>







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