

Vacuum contactor, AC-3 400 A, 200 kW / 400 V AC (50-60 Hz) / DC operation 220-240 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S12 Busbar connections Drive: conventional



product brand name	SIRIUS
product designation	Vacuum contactor
product type designation	3RT12

General technical data	
<b>Size of contactor</b>	S12
<ul style="list-style-type: none"> <li>Product extension function module for communication</li> </ul>	No
<ul style="list-style-type: none"> <li>product extension auxiliary switch</li> </ul>	Yes
<ul style="list-style-type: none"> <li>power loss [W] for rated value of the current at AC in hot operating state</li> </ul>	63 W
<ul style="list-style-type: none"> <li>power loss [W] for rated value of the current at AC in hot operating state per pole</li> </ul>	21 W
<b>power loss [W] for rated value of the current without load current share typical</b>	10 W
<b>Surge voltage resistance</b>	
<ul style="list-style-type: none"> <li>of main circuit rated value</li> </ul>	8 kV
<ul style="list-style-type: none"> <li>of auxiliary circuit rated value</li> </ul>	6 kV
<b>maximum permissible voltage for safe isolation</b>	

<ul style="list-style-type: none"> <li>• between coil and main contacts acc. to EN 60947-1</li> </ul>	690 V
<b>protection class IP</b> <ul style="list-style-type: none"> <li>• on the front</li> <li>• 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

<ul style="list-style-type: none"> <li>• installation altitude at height above sea level maximum</li> </ul>	2 000 m
<ul style="list-style-type: none"> <li>• ambient temperature during operation</li> <li>• ambient temperature 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
<ul style="list-style-type: none"> <li>• operating voltage at AC-3 rated value maximum</li> </ul>	1 000 V
<ul style="list-style-type: none"> <li>• Operating current at AC-1 at 400 V <ul style="list-style-type: none"> <li>— at ambient temperature 40 °C rated value</li> </ul> </li> </ul>	610 A
<ul style="list-style-type: none"> <li>• Operating current 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> </ul>	610 A 550 A 610 A 550 A
<ul style="list-style-type: none"> <li>• Operating current at AC-2 at 400 V rated value</li> <li>• <ul style="list-style-type: none"> <li>— operating current at AC-3 at 400 V rated value</li> </ul> </li> </ul>	400 A 400 A

— Operating current at AC-3 at 500 V rated value	400 A
— Operating current at AC-3 at 690 V rated value	400 A
— Operating current at AC-3 at 1000 V rated value	400 A
• Operating current at AC-4 at 400 V rated value	350 A
• Operating current at AC-6a	
— up to 230 V for current peak value n=20 rated value	400 A
— up to 400 V for current peak value n=20 rated value	400 A
— up to 500 V for current peak value n=20 rated value	400 A
— up to 690 V for current peak value n=20 rated value	400 A
— up to 1000 V for current peak value n=20 rated value	400 A
• Operating current at AC-6a	
— up to 230 V for current peak value n=30 rated value	293 A
— up to 400 V for current peak value n=30 rated value	293 A
— up to 500 V for current peak value n=30 rated value	293 A
— up to 690 V for current peak value n=30 rated value	293 A
— up to 1000 V for current peak value n=30 rated value	293 A
<b>Minimum cross-section in main circuit</b>	
• at maximum AC-1 rated value	300 mm <sup>2</sup>
<b>Operating current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	175 A
• at 690 V rated value	123 A
• Operating power at AC-2 at 400 V rated value	200 kW
•	
— operating power at AC-3 at 230 V rated value	132 kW
— operating power at AC-3 at 400 V rated value	200 kW
— operating power at AC-3 at 500 V rated value	250 kW
— operating power at AC-3 at 690 V rated value	400 kW

— Operating power at AC-3 at 1000 V rated value	560 kW
<b>Operating power for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	98 kW
• at 690 V rated value	172 kW
<b>Operating apparent output at AC-6a</b>	
• up to 230 V for current peak value n=20 rated value	150 000 kV·A
• up to 400 V for current peak value n=20 rated value	270 000 V·A
• up to 500 V for current peak value n=20 rated value	340 000 V·A
• up to 690 V for current peak value n=20 rated value	470 000 V·A
• up to 1000 V for current peak value n=20 rated value	690 000 V·A
<b>Operating apparent output at AC-6a</b>	
• up to 230 V for current peak value n=30 rated value	110 000 V·A
• up to 400 V for current peak value n=30 rated value	200 000 V·A
• up to 500 V for current peak value n=30 rated value	250 000 V·A
• up to 690 V for current peak value n=30 rated value	350 000 V·A
• up to 1000 V for current peak value n=30 rated value	500 000 V·A
<b>No-load switching frequency</b>	
• at AC	2 000 1/h
• at DC	2 000 1/h
• Operating frequency at AC-1 maximum	700 1/h
• Operating frequency at AC-2 maximum	250 1/h
• operating frequency at AC-3 maximum	750 1/h
• Operating frequency at AC-4 maximum	250 1/h
<b>Control circuit/ Control</b>	
<b>Type of voltage of the control supply voltage</b>	AC/DC
• control supply voltage at AC at 50 Hz rated value	220 ... 240 V
• control supply voltage at AC at 60 Hz rated value	220 ... 240 V
<b>control supply voltage at DC</b>	
• rated value	220 ... 240 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	830 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	9.2 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>	920 W
<b>Holding power of magnet coil at DC</b>	10 W
<b>Closing delay</b>	
• at AC	45 ... 100 ms
• at DC	45 ... 100 ms
<b>Opening delay</b>	
• at AC	60 ... 100 ms
• at DC	60 ... 100 ms
<b>Arcing time</b>	10 ... 15 ms
<b>Control version of the switch operating mechanism</b>	Standard A1 - A2

#### Auxiliary circuit

• Number of NC contacts for auxiliary contacts instantaneous contact	2
• Number of NO contacts for auxiliary contacts 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
• Operating current at DC-12 at 24 V rated value	10 A
• operating current at DC-12 at 48 V rated value	6 A
• Operating current at DC-12 at 60 V rated value	6 A

<ul style="list-style-type: none"> <li>operating current at DC-12 at 110 V rated value</li> </ul>	3 A
<ul style="list-style-type: none"> <li>Operating current at DC-12 at 125 V rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>Operating current at DC-12 at 220 V rated value</li> </ul>	1 A
<ul style="list-style-type: none"> <li>Operating current at DC-12 at 600 V rated value</li> </ul>	0.15 A
<ul style="list-style-type: none"> <li>Operating current at DC-13 at 24 V rated value</li> </ul>	10 A
<ul style="list-style-type: none"> <li>operating current at DC-13 at 48 V rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>Operating current at DC-13 at 60 V rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>operating current at DC-13 at 110 V rated value</li> </ul>	1 A
<ul style="list-style-type: none"> <li>Operating current at DC-13 at 125 V rated value</li> </ul>	0.9 A
<ul style="list-style-type: none"> <li>Operating current at DC-13 at 220 V rated value</li> </ul>	0.3 A
<ul style="list-style-type: none"> <li>Operating current at DC-13 at 600 V rated value</li> </ul>	0.1 A
<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> </ul>	361 A
<ul style="list-style-type: none"> <li>at 600 V rated value</li> </ul>	382 A
<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>	125 hp 150 hp 300 hp 400 hp
<b>contact rating of auxiliary contacts according to UL</b>	A600 / Q600

#### Short-circuit protection

<ul style="list-style-type: none"> <li>Design of the fuse link for short-circuit protection of the main circuit with type of coordination 1 required</li> </ul>	gG: 800 A (690 V, 100 kA)
<ul style="list-style-type: none"> <li>Design of the fuse link for short-circuit protection of the main circuit with type of assignment 2 required</li> </ul>	gG: 800 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 800 A (415 V, 50 kA)
<ul style="list-style-type: none"> <li>design of the fuse link for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 10 A (500 V, 1 kA)

#### 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
<ul style="list-style-type: none"> <li><b>mounting type</b></li> </ul>	screw fixing

• mounting type side-by-side mounting	Yes
<b>height</b>	210 mm
<b>width</b>	145 mm
<b>depth</b>	206 mm
<b>required spacing</b>	
• with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• 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
• type of connectable conductor cross-sections 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>
• type of connectable conductor cross-sections 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> )

<ul style="list-style-type: none"> <li>• type of connectable conductor cross-sections for auxiliary contacts single or multi-stranded</li> </ul>	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> )
<ul style="list-style-type: none"> <li>• type of connectable conductor cross-sections for auxiliary contacts finely stranded with core end processing</li> </ul>	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• type of connectable conductor cross-sections at AWG conductors for auxiliary contacts</li> </ul>	2x (20 ... 16), 2x (18 ... 14), 1x 12
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	18 ... 14

### Safety related data

<b>Product function</b>	
<ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• positively driven operation acc. to IEC 60947-5-1</li> </ul>	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>
 CCC	 CSA	 UL
		
 RCM		
<a href="#">Type Examination Certificate</a>		

<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
 EG-Konf.	<a href="#">Miscellaneous</a> <a href="#">Type Test Certificates/Test Report</a> <a href="#">Special Test Certificate</a>	 ABS  RMRS

<b>other</b>	<b>Railway</b>
<a href="#">Confirmation</a> <a href="#">Miscellaneous</a>	<a href="#">Special Test Certificate</a>

### 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=3RT1275-6AP36>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1275-6AP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1275-6AP36>

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

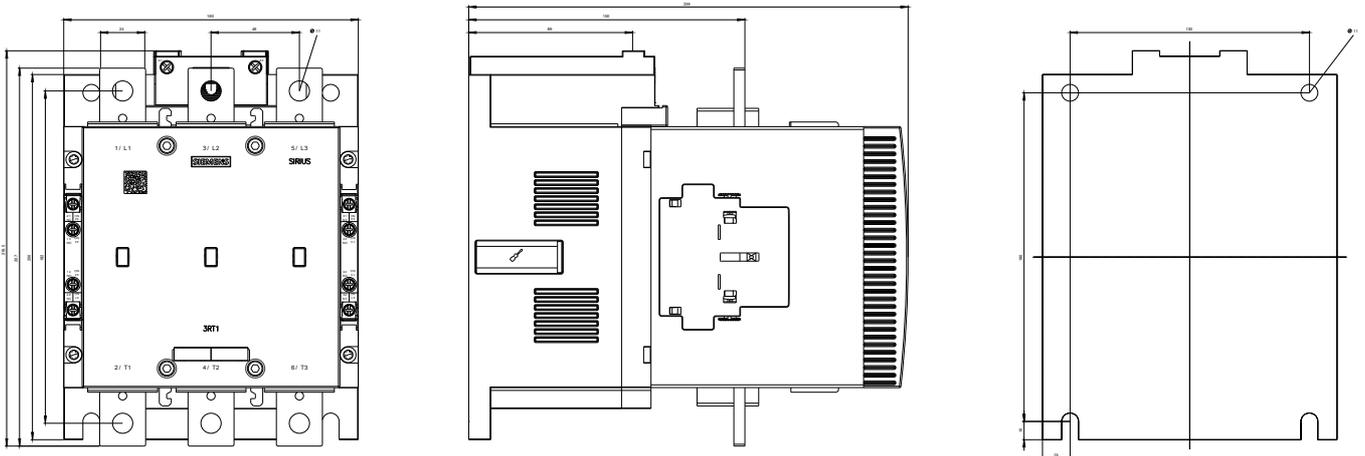
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1275-6AP36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1275-6AP36&lang=en)

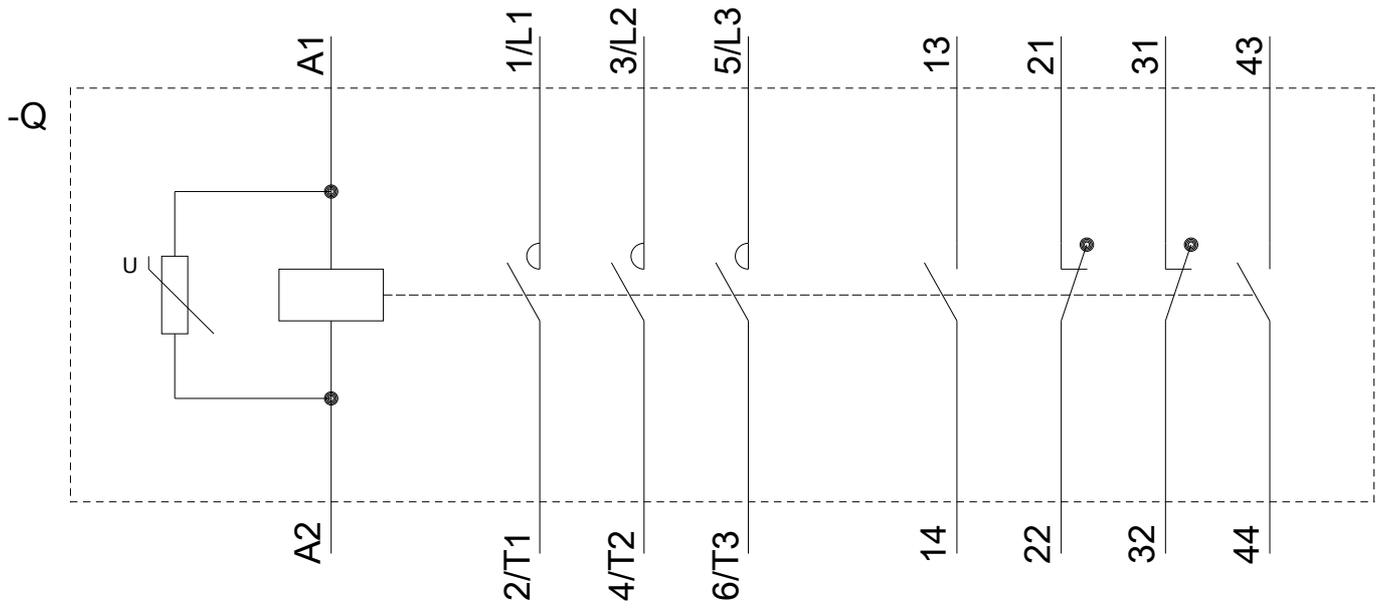
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1275-6AP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1275-6AP36&objecttype=14&gridview=view1>





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