



vacuum contactor, AC-3 500 A, 250 kW / 400 V AC (50-60 Hz) / DC operation 96-127 V AC/DC auxiliary contacts 2 NO + 2 NC 3-pole, frame size S12 busbar connections drive: electronic with SPS interface DV 24 V

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Vacuum contactor
<b>product type designation</b>	3RT12
<b>General technical data</b>	
<b>size of contactor</b>	S12
<b>product extension</b>	
<ul style="list-style-type: none"> <li>function module for communication</li> <li>auxiliary switch</li> </ul>	<p>No</p> <p>Yes</p>
<b>power loss [W] for rated value of the current</b>	
<ul style="list-style-type: none"> <li>at AC in hot operating state</li> <li>at AC in hot operating state per pole</li> <li>without load current share typical</li> </ul>	<p>96 W</p> <p>32 W</p> <p>3.6 W</p>
<b>insulation voltage</b>	
<ul style="list-style-type: none"> <li>of main circuit with degree of pollution 3 rated value</li> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	<p>1 000 V</p> <p>500 V</p>
<b>surge voltage resistance</b>	
<ul style="list-style-type: none"> <li>of main circuit rated value</li> <li>of auxiliary circuit rated value</li> </ul>	<p>8 kV</p> <p>6 kV</p>
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1	690 V
<b>shock resistance at rectangular impulse</b>	
<ul style="list-style-type: none"> <li>at AC</li> <li>at DC</li> </ul>	<p>8,5g / 5 ms, 4,2g / 10 ms</p> <p>8,5g / 5 ms, 4,2g / 10 ms</p>
<b>shock resistance with sine pulse</b>	
<ul style="list-style-type: none"> <li>at AC</li> <li>at DC</li> </ul>	<p>13,4g / 5 ms, 6,5g / 10 ms</p> <p>13,4g / 5 ms, 6,5g / 10 ms</p>
<b>mechanical service life (switching cycles)</b>	
<ul style="list-style-type: none"> <li>of contactor typical</li> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> <li>of the contactor with added auxiliary switch block typical</li> </ul>	<p>10 000 000</p> <p>5 000 000</p> <p>10 000 000</p>
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	05/01/2012
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> </ul>	<p>-25 ... +60 °C</p> <p>-55 ... +80 °C</p>

relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
<b>Main circuit</b>	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
<b>operating voltage</b>	
• at AC-3 rated value maximum	1 000 V
• at AC-3e rated value maximum	1 000 V
<b>operational current</b>	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	610 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	610 A
— up to 690 V at ambient temperature 60 °C rated value	550 A
— up to 1000 V at ambient temperature 40 °C rated value	610 A
— up to 1000 V at ambient temperature 60 °C rated value	550 A
• at AC-3	
— at 400 V rated value	500 A
— at 500 V rated value	500 A
— at 690 V rated value	500 A
— at 1000 V rated value	500 A
• at AC-3e	
— at 400 V rated value	500 A
— at 500 V rated value	500 A
— at 690 V rated value	500 A
— at 1000 V rated value	500 A
• at AC-4 at 400 V rated value	430 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	439 A
— up to 400 V for current peak value n=20 rated value	439 A
— up to 500 V for current peak value n=20 rated value	439 A
— up to 690 V for current peak value n=20 rated value	439 A
— up to 1000 V for current peak value n=20 rated value	439 A
• 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
minimum cross-section in main circuit at maximum AC-1 rated value	370 mm <sup>2</sup>
<b>operational current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	215 A
• at 690 V rated value	215 A
<b>operating power</b>	
• at AC-3	
— at 230 V rated value	160 kW
— at 400 V rated value	250 kW

— at 500 V rated value	355 kW
— at 690 V rated value	500 kW
— at 1000 V rated value	710 kW
● at AC-3e	
— at 230 V rated value	160 kW
— at 400 V rated value	250 kW
— at 500 V rated value	355 kW
— at 690 V rated value	500 kW
— at 1000 V rated value	710 kW
<b>operating power for approx. 200000 operating cycles at AC-4</b>	
● at 400 V rated value	122 kW
● at 690 V rated value	212 kW
<b>operating apparent power at AC-6a</b>	
● up to 230 V for current peak value n=20 rated value	170 000 kVA
● up to 400 V for current peak value n=20 rated value	300 000 VA
● up to 500 V for current peak value n=20 rated value	380 000 VA
● up to 690 V for current peak value n=20 rated value	520 000 VA
● up to 1000 V for current peak value n=20 rated value	760 000 VA
<b>operating apparent power at AC-6a</b>	
● up to 230 V for current peak value n=30 rated value	110 000 VA
● up to 400 V for current peak value n=30 rated value	200 000 VA
● up to 500 V for current peak value n=30 rated value	250 000 VA
● up to 690 V for current peak value n=30 rated value	350 000 VA
● up to 1000 V for current peak value n=30 rated value	500 000 VA
<b>no-load switching frequency</b>	
● at AC	1 000 1/h
● at DC	1 000 1/h
<b>operating frequency</b>	
● at AC-1 maximum	700 1/h
● at AC-2 maximum	250 1/h
● at AC-3 maximum	750 1/h
● at AC-3e maximum	750 1/h
● at AC-4 maximum	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>	
● at 50 Hz rated value	96 ... 127 V
● at 60 Hz rated value	96 ... 127 V
<b>control supply voltage at DC</b>	
● rated value	96 ... 127 V
<b>type of PLC-control input according to IEC 60947-1</b>	Type 2
<b>consumed current at PLC-control input according to IEC 60947-1 maximum</b>	20 mA
<b>voltage at PLC-control input rated value</b>	24 V
<b>operating range factor of the voltage at PLC-control input</b>	0.8 ... 1.1
<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	570 VA
● at 60 Hz	570 VA
<b>inductive power factor with closing power of the coil</b>	

<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	0.8 0.8
<b>apparent holding power of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	5.6 VA 5.6 VA
<b>inductive power factor with the holding power of the coil</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	0.8 0.8
<b>closing power of magnet coil at DC</b>	800 W
<b>holding power of magnet coil at DC</b>	3.6 W
<b>closing delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	60 ... 90 ms 60 ... 90 ms
<b>opening delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	80 ... 100 ms 80 ... 100 ms
<b>arcing time</b>	10 ... 15 ms
<b>control version of the switch operating mechanism</b>	PLC-IN or Standard A1 - A2 (adjustable)
<b>Auxiliary circuit</b>	
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
<b>operational current at AC-15</b>	
<ul style="list-style-type: none"> <li>• at 230 V rated value</li> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>	6 A 3 A 2 A 1 A
<b>operational 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>	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
<b>operational 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 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>	10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A
<b>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)
<b>UL/CSA ratings</b>	
<b>full-load current (FLA) for 3-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>	477 A 472 A
<b>yielded mechanical performance [hp]</b>	
<ul style="list-style-type: none"> <li>• for 3-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>	150 hp 200 hp 400 hp 500 hp
<b>contact rating of auxiliary contacts according to UL</b>	A600 / Q600
<b>Short-circuit protection</b>	
<b>design of the fuse link</b>	

- for short-circuit protection of the main circuit
  - with type of coordination 1 required
  - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG: 800 A (690 V, 100 kA)  
 gG: 800 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 800 A (415 V, 50 kA)  
 gG: 10 A (500 V, 1 kA)

### Installation/ mounting/ dimensions

<b>mounting position</b>	+/-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>fastening method</b>	screw fixing
● side-by-side mounting	Yes
<b>height</b>	214 mm
<b>width</b>	160 mm
<b>depth</b>	225 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>type of electrical connection</b>	
● for main current circuit	Connection bar
● for auxiliary and control circuit	screw-type terminals
● at contactor for auxiliary contacts	Screw-type terminals
● of magnet coil	Screw-type 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
<b>type of connectable conductor cross-sections</b>	
● at AWG cables 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>	
● solid or 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> )
— solid or 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 cables 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

<b>product function</b>	
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<ul style="list-style-type: none"> <li>• mirror contact according to IEC 60947-4-1</li> <li>• positively driven operation according to IEC 60947-5-1</li> </ul>	<p>Yes</p> <p>No</p>
<b>protection class IP on the front according to IEC 60529</b>	IP00; IP20 with box terminal/cover
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front with box terminal/cover
<b>suitability for use</b> <ul style="list-style-type: none"> <li>• safety-related switching OFF</li> </ul>	Yes

**Certificates/ approvals**

<b>General Product Approval</b>	<b>EMC</b>
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[Confirmation](#)



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



EG-Konf.

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS

<b>Marine / Shipping</b>	<b>other</b>
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LRS



PRS



RMRS

[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

**Railway**

[Special Test Certificate](#)

**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=3RT1276-6NF36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1276-6NF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6NF36>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1276-6NF36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1276-6NF36&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6NF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1276-6NF36&objecttype=14&gridview=view1>

last modified:

3/24/2022