



vacuum contactor AC-3e/AC-3 500 A, 250 kW / 400 V, 3-pole,  $U_c$ : 240-277 V AC(50-60 Hz) / DC drive: conventional auxiliary contacts 2 NO + 2 NC  
main circuit: busbar control and auxiliary circuit: screw terminal

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

### General technical data

size of contactor	S12
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	96 W
• at AC in hot operating state per pole	32 W
• without load current share typical	10 W
insulation voltage	
• of main circuit with degree of pollution 3 rated value	1 000 V
• of auxiliary circuit with degree of pollution 3 rated value	500 V
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 according to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical	10 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibition (Date)	05/01/2012

### Ambient conditions

installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

## 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>	
• 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	2 000 1/h
• at DC	2 000 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	240 ... 277 V
• at 60 Hz rated value	240 ... 277 V
<b>control supply voltage at DC</b>	
• rated value	240 ... 277 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 VA
• at 60 Hz	830 VA
<b>inductive power factor with closing power of the coil</b>	
• at 50 Hz	0.9
• at 60 Hz	0.9
<b>apparent holding power of magnet coil at AC</b>	
• at 50 Hz	9.2 VA
• at 60 Hz	9.2 VA
<b>inductive power factor with the holding power of the coil</b>	
• at 50 Hz	0.9
• at 60 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>	

<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	60 ... 100 ms
<b>arcing time</b>	60 ... 100 ms
<b>control version of the switch operating mechanism</b>	10 ... 15 ms
	Standard A1 - A2
<b>Auxiliary circuit</b>	
number of NC contacts for auxiliary contacts	2
instantaneous contact	
number of NO contacts for auxiliary contacts	2
instantaneous contact	
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> </ul>	6 A
<ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>	3 A
<ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>	1 A
<b>operational current at DC-12</b>	
<ul style="list-style-type: none"> <li>• at 24 V rated value</li> </ul>	10 A
<ul style="list-style-type: none"> <li>• at 48 V rated value</li> </ul>	6 A
<ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>	6 A
<ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>	3 A
<ul style="list-style-type: none"> <li>• at 125 V rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>	1 A
<ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>	0.15 A
<b>operational current at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V rated value</li> </ul>	10 A
<ul style="list-style-type: none"> <li>• at 48 V rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>	1 A
<ul style="list-style-type: none"> <li>• at 125 V rated value</li> </ul>	0.9 A
<ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>	0.3 A
<ul style="list-style-type: none"> <li>• 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)
<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> </ul>	477 A
<ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>	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>	
<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>	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)
<b>Installation/ mounting/ dimensions</b>	
<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
<ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul>	Yes
<b>height</b>	214 mm
<b>width</b>	160 mm
<b>depth</b>	225 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> </ul> </li> </ul>	20 mm 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

##### type of electrical connection

- for main current circuit
- for auxiliary and control circuit
- at contactor for auxiliary contacts
- of magnet coil

Connection bar  
screw-type terminals  
Screw-type terminals  
Screw-type terminals

##### width of connection bar

25 mm

##### thickness of connection bar

6 mm

##### diameter of holes

11 mm

##### number of holes

1

##### connectable conductor cross-section for main contacts

- stranded

70 ... 240 mm<sup>2</sup>

##### connectable conductor cross-section for auxiliary contacts

- solid or stranded
- finely stranded with core end processing

0.5 ... 4 mm<sup>2</sup>

0.5 ... 2.5 mm<sup>2</sup>

##### type of connectable conductor cross-sections

- for auxiliary contacts
  - solid
  - solid or stranded
  - finely stranded with core end processing
- at AWG cables for auxiliary contacts

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>)

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>)

2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)

2x (20 ... 16), 2x (18 ... 14), 1x 12

##### AWG number as coded connectable conductor cross section

- for auxiliary contacts

18 ... 14

#### Safety related data

##### product function

- mirror contact according to IEC 60947-4-1
- positively driven operation according to IEC 60947-5-1

Yes

No

T1 value for proof test interval or service life according to IEC 61508

20 a

##### protection class IP on the front according to IEC 60529

IP00; IP20 with box terminal/cover

##### touch protection on the front according to IEC 60529

finger-safe, for vertical contact from the front with box terminal/cover

##### suitability for use

- safety-related switching OFF

Yes

#### Certificates/ approvals

##### General Product Approval

EMC



[Confirmation](#)



Functional  
Safety/Safety of  
Machinery

Declaration of Conformity

Test Certificates

Marine / Shipping

[Type Examination Certificate](#)



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



#### Marine / Shipping

other



[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

#### Railway

[Special Test Certificate](#) [Vibration and Shock](#)

#### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RT1276-6AU36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1276-6AU36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AU36>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1276-6AU36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1276-6AU36&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AU36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1276-6AU36&objecttype=14&gridview=view1>



