



vacuum contactor AC-3e/AC-3 300 A, 160 kW / 400 V, 3-pole, U<sub>c</sub>: 42-48 V AC(50-60 Hz) / DC drive: conventional auxiliary contacts 2 NO + 2 NC main circuit: busbar control and auxiliary circuit: screw terminal

<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>	S10
<b>product extension</b>	
• function module for communication	No
• auxiliary switch	Yes
<b>power loss [W] for rated value of the current</b>	
• at AC in hot operating state	42 W
• at AC in hot operating state per pole	14 W
• without load current share typical	8.2 W
<b>type of calculation of power loss depending on pole</b>	quadratic
<b>insulation voltage</b>	
• 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
<b>surge voltage resistance</b>	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V
<b>shock resistance at rectangular impulse</b>	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
<b>shock resistance with sine pulse</b>	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 10 ms
<b>mechanical service life (operating cycles)</b>	
• 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
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibition (Date)</b>	05/01/2012
<b>SVHC substance name</b>	Lead - 7439-92-1
<b>Weight</b>	7.35 kg
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
• 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 %
<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	330 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	330 A
— up to 690 V at ambient temperature 60 °C rated value	300 A
— up to 1000 V at ambient temperature 40 °C rated value	330 A
— up to 1000 V at ambient temperature 60 °C rated value	300 A
• at AC-3	
— at 400 V rated value	300 A
— at 500 V rated value	300 A
— at 690 V rated value	300 A
— at 1000 V rated value	300 A
• at AC-3e	
— at 400 V rated value	300 A
— at 500 V rated value	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
minimum cross-section in main circuit at maximum AC-1 rated value	185 mm <sup>2</sup>
<b>operational current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	140 A
• at 690 V rated value	140 A
<b>operating power</b>	
• 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
• at AC-3e	
— 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 power at AC-6a</b>	
• up to 230 V for current peak value n=20 rated value	120 000 kVA
• up to 400 V for current peak value n=20 rated value	200 000 VA
• up to 500 V for current peak value n=20 rated value	260 000 VA
• up to 690 V for current peak value n=20 rated value	350 000 VA
• up to 1000 V for current peak value n=20 rated value	520 000 VA
<b>operating apparent power at AC-6a</b>	
• up to 230 V for current peak value n=30 rated value	80 000 VA
• up to 400 V for current peak value n=30 rated value	140 000 VA
• up to 500 V for current peak value n=30 rated value	180 000 VA
• up to 690 V for current peak value n=30 rated value	250 000 VA
• up to 1000 V for current peak value n=30 rated value	360 000 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	750 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	42 ... 48 V
• at 60 Hz rated value	42 ... 48 V
<b>control supply voltage at DC rated value</b>	42 ... 48 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</b>	
• at minimum rated control supply voltage at AC	
— at 50 Hz	530 VA
— at 60 Hz	530 VA
• at maximum rated control supply voltage at AC	
— at 60 Hz	630 VA
— at 50 Hz	630 VA
<b>apparent pick-up power of magnet coil at AC</b>	
• at 50 Hz	590 VA
• at 60 Hz	590 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</b>	
• at minimum rated control supply voltage at DC	6.8 VA
• at maximum rated control supply voltage at DC	8.2 VA
<b>apparent holding power</b>	
• at minimum rated control supply voltage at AC	
— at 50 Hz	6.1 VA
— at 60 Hz	6.1 VA
• at maximum rated control supply voltage at AC	

— at 50 Hz	7.4 VA
— at 60 Hz	7.4 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>	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
<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>	
• 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>operational 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>operational current at DC-13</b>	
• at 24 V rated value	10 A
• at 48 V rated value	2 A
• at 60 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>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>	
• at 480 V rated value	302 A
• at 600 V rated value	289 A
<b>yielded mechanical performance [hp]</b>	
• for 3-phase AC motor	
— at 200/208 V rated value	100 hp
— at 220/230 V rated value	125 hp
— at 460/480 V rated value	250 hp
— at 575/600 V rated value	300 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	gG: 500 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA)
• for short-circuit protection of the auxiliary switch required	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
fastening method side-by-side mounting	Yes
<b>fastening method</b>	screw fixing
<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 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— at the side 10 mm</li> <li>— downwards 10 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 10 mm</li> </ul> </li> </ul>	
Connections/ Terminals	
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• for main current circuit Connection bar</li> <li>• for auxiliary and control circuit screw-type terminals</li> <li>• at contactor for auxiliary contacts Screw-type terminals</li> <li>• of magnet coil Screw-type terminals</li> </ul>	
<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>	
<ul style="list-style-type: none"> <li>• for AWG cables for main contacts 2/0 ... 500 kcmil</li> </ul>	
<b>connectable conductor cross-section for main contacts</b>	
<ul style="list-style-type: none"> <li>• stranded 70 ... 240 mm<sup>2</sup></li> </ul>	
<b>connectable conductor cross-section for auxiliary contacts</b>	
<ul style="list-style-type: none"> <li>• solid or stranded 0.5 ... 4 mm<sup>2</sup></li> <li>• finely stranded with core end processing 0.5 ... 2.5 mm<sup>2</sup></li> </ul>	
<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 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>)</li> <li>— 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>)</li> <li>— finely stranded with core end processing 2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</li> </ul> </li> <li>• for AWG cables for auxiliary contacts 2x (20 ... 16), 2x (18 ... 14), 1x 12</li> </ul>	
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts 18 ... 14</li> </ul>	
Safety related data	
<b>product function</b>	
<ul style="list-style-type: none"> <li>• mirror contact according to IEC 60947-4-1 Yes</li> <li>• positively driven operation according to IEC 60947-5-1 No</li> </ul>	
Electrical Safety	
<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
Approvals Certificates	
General Product Approval	



[Confirmation](#)



[KC](#)

General Product Approval	EMV	Functional Safety	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other
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[Confirmation](#)

[Miscellaneous](#)

other	Railway	Environment
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[Confirmation](#)

[Special Test Certificate](#)

[Environmental Conformations](#)

#### 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=3RT1266-6AD36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1266-6AD36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1266-6AD36>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1266-6AD36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1266-6AD36&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1266-6AD36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1266-6AD36&objecttype=14&gridview=view1>



