

vacuum contactor AC-3e/AC-3 400 A, 200 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>	Power contactor
<b>product type designation</b>	3RT12
<b>General technical data</b>	
<b>size of contactor</b>	S12
<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	63 W
• at AC in hot operating state per pole	21 W
• without load current share typical	10 W
<b>type of calculation of power loss current-dependent</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	8,5 g / 5 ms, 4,2 g / 10 ms
• at DC	8,5 g / 5 ms, 4,2 g / 10 ms
<b>shock resistance with sine pulse</b>	
• at AC	13,4 g / 5 ms, 6,5 g / 10 ms
• at DC	13,4 g / 5 ms, 6,5 g / 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 (day/month/year)</b>	05/01/2012
<b>SVHC substance name</b>	Lead CAS-No. 7439-92-1
<b>Net Weight</b>	10.37 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
<b>relative humidity minimum</b>	10 %
<b>relative humidity at 55 °C according to IEC 60068-2-30 maximum</b>	95 %
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>number of NO contacts for main contacts</b>	3
<b>number of NC contacts for main contacts</b>	0
<b>operating voltage</b>	

<ul style="list-style-type: none"> <li>● at AC-3 rated value maximum</li> </ul>	1 000 V
<ul style="list-style-type: none"> <li>● at AC-3e rated value maximum</li> </ul>	1 000 V
<b>operational current</b>	
<ul style="list-style-type: none"> <li>● at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	610 A
<ul style="list-style-type: none"> <li>● at AC-1 <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 40 °C rated value</li> </ul> </li> </ul>	610 A
<ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul>	550 A
<ul style="list-style-type: none"> <li>● at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>	400 A
<ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>	400 A
<ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>	400 A
<ul style="list-style-type: none"> <li>● at AC-3e <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>	400 A
<ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>	400 A
<ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>	400 A
<ul style="list-style-type: none"> <li>● at AC-4 at 400 V rated value</li> </ul>	350 A
<ul style="list-style-type: none"> <li>● at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=20 rated value</li> </ul> </li> </ul>	400 A
<ul style="list-style-type: none"> <li>— up to 400 V for current peak value n=20 rated value</li> </ul>	400 A
<ul style="list-style-type: none"> <li>— up to 500 V for current peak value n=20 rated value</li> </ul>	400 A
<ul style="list-style-type: none"> <li>— up to 690 V for current peak value n=20 rated value</li> </ul>	400 A
<ul style="list-style-type: none"> <li>● at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=30 rated value</li> </ul> </li> </ul>	293 A
<ul style="list-style-type: none"> <li>— up to 400 V for current peak value n=30 rated value</li> </ul>	293 A
<ul style="list-style-type: none"> <li>— up to 500 V for current peak value n=30 rated value</li> </ul>	293 A
<ul style="list-style-type: none"> <li>— up to 690 V for current peak value n=30 rated value</li> </ul>	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>	
<ul style="list-style-type: none"> <li>● at 400 V rated value</li> </ul>	175 A
<ul style="list-style-type: none"> <li>● at 690 V rated value</li> </ul>	175 A
<b>operating power</b>	
<ul style="list-style-type: none"> <li>● at AC-3 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> </ul> </li> </ul>	132 kW
<ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul>	200 kW
<ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>	250 kW
<ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>	400 kW
<ul style="list-style-type: none"> <li>● at AC-3e <ul style="list-style-type: none"> <li>— at 230 V rated value</li> </ul> </li> </ul>	132 kW
<ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul>	200 kW
<ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>	250 kW
<ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>	400 kW
<b>operating power for approx. 200000 operating cycles at AC-4</b>	
<ul style="list-style-type: none"> <li>● at 400 V rated value</li> </ul>	98 kW
<ul style="list-style-type: none"> <li>● at 690 V rated value</li> </ul>	172 kW
<b>operating apparent power 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>	150 kVA
<ul style="list-style-type: none"> <li>● up to 400 V for current peak value n=20 rated value</li> </ul>	270 kVA
<ul style="list-style-type: none"> <li>● up to 500 V for current peak value n=20 rated value</li> </ul>	340 kVA
<ul style="list-style-type: none"> <li>● up to 690 V for current peak value n=20 rated value</li> </ul>	470 kVA
<b>operating apparent power 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>	110 kVA
<ul style="list-style-type: none"> <li>● up to 400 V for current peak value n=30 rated value</li> </ul>	200 kVA
<ul style="list-style-type: none"> <li>● up to 500 V for current peak value n=30 rated value</li> </ul>	250 kVA
<ul style="list-style-type: none"> <li>● up to 690 V for current peak value n=30 rated value</li> </ul>	350 kVA
<ul style="list-style-type: none"> <li>● up to 1000 V for current peak value n=30 rated value</li> </ul>	500 kVA

<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	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	700 VA
— at 60 Hz	700 VA
• at maximum rated control supply voltage at AC	
— at 60 Hz	830 VA
— at 50 Hz	830 VA
<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</b>	
• at minimum rated control supply voltage at DC	8.5 VA
• at maximum rated control supply voltage at DC	10 VA
<b>apparent holding power</b>	
• at minimum rated control supply voltage at AC	
— at 50 Hz	7.6 VA
— at 60 Hz	7.6 VA
• at maximum rated control supply voltage at AC	
— 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>	
• 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
<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	361 A
• at 600 V rated value	382 A
<b>yielded mechanical performance [hp]</b>	
• for 3-phase AC motor	
— at 200/208 V rated value	125 hp
— at 220/230 V rated value	150 hp
— at 460/480 V rated value	300 hp
— at 575/600 V rated value	400 hp
<b>contact rating of auxiliary contacts according to UL</b>	A600 / Q600
<b>Short-circuit protection</b>	
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
<b>design of the fuse link</b>	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 800 A (690 V, 100 kA)
— with type of coordination 2 required	gG: 800 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 800 A (415 V, 50 kA)
• for short-circuit protection of the auxiliary switch required	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
fastening method side-by-side mounting	Yes
<b>fastening method</b>	screw fixing
<b>height</b>	217 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>	
• for 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> )
• for AWG cables for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14), 1x 12
<b>AWG number as coded connectable conductor cross section for auxiliary contacts</b>	18 ... 14

#### Safety related data

<b>product function</b>	
• mirror contact according to IEC 60947-4-1	Yes
• positively driven operation according to IEC 60947-5-1	No

#### 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

<b>Environment</b>	<b>General Product Approval</b>
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[Environmental Confirmations](#)



<b>General Product Approval</b>	<b>EMV</b>	<b>Functional Safety</b>	<b>Test Certificates</b>	<b>Maritime application</b>
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[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Maritime application | other



[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

[Confirmation](#)



Railway

[Special Test Certificate](#)

Further information

Information on the packaging

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

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RT1275-6AD36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1275-6AD36>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1275-6AD36&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1275-6AD36&lang=en)

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1275-6AD36>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP="HAUPT"></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)

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