



power contactor, AC-3e/AC-3 400 A, 200 kW / 400 V AC (50-60 Hz) / DC Uc: 220-240 V 3-pole, auxiliary contacts 2 NO + 2 NC drive: conventional main circuit: busbar control and auxiliary circuit: screw terminal



product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
<b>General technical data</b>	
size of contactor	S12
product extension	
<ul style="list-style-type: none"> <li>• function module for communication</li> <li>• auxiliary switch</li> </ul>	No Yes
power loss [W] for rated value of the current	
<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>	105 W 35 W 10 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
<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>	1 000 V 500 V
surge voltage resistance	
<ul style="list-style-type: none"> <li>• of main circuit rated value</li> <li>• of auxiliary circuit rated value</li> </ul>	8 kV 6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V
shock resistance at rectangular impulse	
<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
shock resistance with sine pulse	
<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
mechanical service life (operating cycles)	
<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>	10 000 000 5 000 000 10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/01/2012
SVHC substance name	Lead - 7439-92-1
Weight	10.191 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>Environmental footprint</b>	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	769 kg
global warming potential [CO2 eq] during manufacturing	55.8 kg
global warming potential [CO2 eq] during sales	2.54 kg
global warming potential [CO2 eq] during operation	718 kg
global warming potential [CO2 eq] after end of life	-7.03 kg
Siemens Eco Profile (SEP)	Siemens EcoTech
<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>	
• 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	430 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	430 A
— up to 690 V at ambient temperature 60 °C rated value	400 A
— up to 1000 V at ambient temperature 40 °C rated value	200 A
— up to 1000 V at ambient temperature 60 °C rated value	200 A
• at AC-3	
— at 400 V rated value	400 A
— at 500 V rated value	400 A
— at 690 V rated value	400 A
— at 1000 V rated value	180 A
• at AC-3e	
— at 400 V rated value	400 A
— at 500 V rated value	400 A
— at 690 V rated value	400 A
— at 1000 V rated value	180 A
• at AC-4 at 400 V rated value	350 A
• at AC-5a up to 690 V rated value	378 A
• at AC-5b up to 400 V rated value	332 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	395 A
— up to 400 V for current peak value n=20 rated value	395 A
— up to 500 V for current peak value n=20 rated value	395 A
— up to 690 V for current peak value n=20 rated value	395 A
— up to 1000 V for current peak value n=20 rated value	180 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	264 A
— up to 400 V for current peak value n=30 rated value	264 A
— up to 500 V for current peak value n=30 rated value	264 A
— up to 690 V for current peak value n=30 rated value	264 A
— up to 1000 V for current peak value n=30 rated value	180 A
minimum cross-section in main circuit at maximum AC-1 rated value	300 mm <sup>2</sup>
<b>operational current for approx. 200000 operating cycles at AC-4</b>	

• at 400 V rated value	150 A
• at 690 V rated value	135 A
<b>operational current</b>	
• <b>at 1 current path at DC-1</b>	
— at 24 V rated value	400 A
— at 60 V rated value	330 A
— at 110 V rated value	33 A
— at 220 V rated value	3.8 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.6 A
• <b>with 2 current paths in series at DC-1</b>	
— at 24 V rated value	400 A
— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 A
— at 440 V rated value	4 A
— at 600 V rated value	2 A
• <b>with 3 current paths in series at DC-1</b>	
— at 24 V rated value	400 A
— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 A
— at 440 V rated value	11 A
— at 600 V rated value	5.2 A
• <b>at 1 current path at DC-3 at DC-5</b>	
— at 24 V rated value	400 A
— at 60 V rated value	11 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.18 A
— at 600 V rated value	0.125 A
• <b>with 2 current paths in series at DC-3 at DC-5</b>	
— at 24 V rated value	400 A
— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
• <b>with 3 current paths in series at DC-3 at DC-5</b>	
— at 24 V rated value	400 A
— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
<b>operating power</b>	
• at AC-3	
— at 230 V rated value	132 kW
— at 400 V rated value	200 kW
— at 500 V rated value	250 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	250 kW
• at AC-3e	
— at 230 V rated value	132 kW
— at 400 V rated value	200 kW
— at 500 V rated value	250 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	250 kW
<b>operating power for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	85 kW
• at 690 V rated value	133 kW

<b>operating apparent power at AC-6a</b>	
• up to 230 V for current peak value n=20 rated value	150 kVA
• up to 400 V for current peak value n=20 rated value	270 kVA
• up to 500 V for current peak value n=20 rated value	340 kVA
• up to 690 V for current peak value n=20 rated value	470 kVA
• up to 1000 V for current peak value n=20 rated value	310 kVA
<b>operating apparent power at AC-6a</b>	
• up to 230 V for current peak value n=30 rated value	100 kVA
• up to 400 V for current peak value n=30 rated value	180 kVA
• up to 500 V for current peak value n=30 rated value	220 kVA
• up to 690 V for current peak value n=30 rated value	310 kVA
• up to 1000 V for current peak value n=30 rated value	310 kVA
<b>short-time withstand current in cold operating state up to 40 °C</b>	
• limited to 1 s switching at zero current maximum	6 600 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 5 s switching at zero current maximum	5 761 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 10 s switching at zero current maximum	4 143 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	2 635 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	2 088 A; Use minimum cross-section acc. to AC-1 rated value
<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	200 1/h
• at AC-3 maximum	500 1/h
• at AC-3e — maximum	500 1/h
• at AC-4 maximum	130 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	220 ... 240 V
• at 60 Hz rated value	220 ... 240 V
<b>control supply voltage at DC rated value</b>	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</b>	
• <b>at minimum rated control supply voltage at AC</b>	
— at 50 Hz	700 VA
— at 60 Hz	700 VA
• <b>at maximum rated control supply voltage at AC</b>	
— 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>	
• <b>at minimum rated control supply voltage at AC</b>	

— 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
  - with type of coordination 2 required
- for short-circuit protection of the auxiliary switch required

gG: 630 A (690 V, 100 kA)

gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA)

gG: 10 A (500 V, 1 kA)

#### Installation/ mounting/ dimensions

<b>mounting position</b>	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
<b>fastening method side-by-side mounting</b>	Yes
<b>fastening method</b>	screw fixing
<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>	
• 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
• suitable for safety function	Yes
<b>suitability for use safety-related switching OFF</b>	Yes
<b>service life maximum</b>	20 a

test wear-related service life necessary	Yes
proportion of dangerous failures	
• with low demand rate according to SN 31920	40 %
• with high demand rate according to SN 31920	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
Electrical Safety	
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

#### Approvals Certificates

General Product Approval

EMV



Functional Safety	Test Certificates	Maritime application
<a href="#">Type Examination Certificate</a>	<a href="#">Special Test Certificate</a>	<a href="#">Type Test Certificates/Test Report</a>



Maritime application	other

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



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[Environmental Confirmations](#)

Further information
Information on the packaging <a href="https://support.industry.siemens.com/cs/ww/en/view/109813875">https://support.industry.siemens.com/cs/ww/en/view/109813875</a>
Information for data generation and storage <a href="https://support.industry.siemens.com/cs/ww/en/view/109995012">https://support.industry.siemens.com/cs/ww/en/view/109995012</a>
Information- and Downloadcenter (Catalogs, Brochures,...) <a href="https://www.siemens.com/ic10">https://www.siemens.com/ic10</a>
Industry Mall (Online ordering system) <a href="https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1075-6AP36">https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1075-6AP36</a>
Cax online generator <a href="https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&amp;mlfb=3RT1075-6AP36">https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&amp;mlfb=3RT1075-6AP36</a>
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) <a href="https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6AP36">https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6AP36</a>
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1075-6AP36&amp;lang=en">https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1075-6AP36&amp;lang=en</a>
Characteristic: Tripping characteristics, I <sub>pt</sub> , Let-through current <a href="https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6AP36/char">https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6AP36/char</a>
Further characteristics (e.g. electrical endurance, switching frequency) <a href="https://www.automation.siemens.com/bilddb/index.aspx?view=Search&amp;mlfb=3RT1075-6AP36&amp;objecttype=14&amp;gridview=view1">https://www.automation.siemens.com/bilddb/index.aspx?view=Search&amp;mlfb=3RT1075-6AP36&amp;objecttype=14&amp;gridview=view1</a>



