



power contactor, AC-3e/AC-3, 32 A, 15 kW / 400 V, 3-pole, 24 V DC, with plugged-in diode combination, auxiliary contacts: 2 NO + 2 NC, spring-loaded terminal, size: S0, captive auxiliary switch

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Power contactor
<b>product type designation</b>	3RT2
<b>General technical data</b>	
<b>size of contactor</b>	S0
<b>product extension</b>	
• function module for communication	No
• auxiliary switch	No
<b>power loss [W] for rated value of the current</b>	
• at AC in hot operating state	6.3 W
• at AC in hot operating state per pole	2.3 W
• without load current share typical	5.9 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	690 V
• of auxiliary circuit with degree of pollution 3 rated value	690 V
<b>surge voltage resistance</b>	
• of main circuit rated value	6 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
<b>shock resistance at rectangular impulse</b>	
• at DC	10g / 5 ms, 7,5g / 10 ms
<b>shock resistance with sine pulse</b>	
• at DC	15g / 5 ms, 10g / 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 Prohibitance (Date)</b>	10/01/2009
<b>SVHC substance name</b>	Lead - 7439-92-1 2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329) - 3147-75-9
<b>Weight</b>	0.71 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 %

#### Environmental footprint

Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	221 kg
global warming potential [CO2 eq] during manufacturing	2.65 kg
global warming potential [CO2 eq] during operation	219 kg
global warming potential [CO2 eq] after end of life	-0.639 kg

#### Main circuit

<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	690 V
• at AC-3e rated value maximum	690 V
<b>operational current</b>	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	50 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	50 A
— up to 690 V at ambient temperature 60 °C rated value	42 A
• at AC-3	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-3e	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-4 at 400 V rated value	22 A
• at AC-5a up to 690 V rated value	44 A
• at AC-5b up to 400 V rated value	26.5 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	30.8 A
— up to 400 V for current peak value n=20 rated value	30.8 A
— up to 500 V for current peak value n=20 rated value	27 A
— up to 690 V for current peak value n=20 rated value	21 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	20.5 A
— up to 400 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	18 A
— up to 690 V for current peak value n=30 rated value	18 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm <sup>2</sup>
<b>operational current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	12 A
• at 690 V rated value	12 A
<b>operational current</b>	
• at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 60 V rated value	20 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
• with 2 current paths in series at DC-1	

— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
<b>● with 3 current paths in series at DC-1</b>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
<b>● at 1 current path at DC-3 at DC-5</b>	
— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
<b>● with 2 current paths in series at DC-3 at DC-5</b>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
<b>● with 3 current paths in series at DC-3 at DC-5</b>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
<b>operating power</b>	
● at AC-2 at 400 V rated value	15 kW
● at AC-3	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
● at AC-3e	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
<b>operating power for approx. 200000 operating cycles at AC-4</b>	
● at 400 V rated value	6 kW
● at 690 V rated value	10.3 kW
<b>operating apparent power at AC-6a</b>	
● up to 230 V for current peak value n=20 rated value	12.2 kVA
● up to 400 V for current peak value n=20 rated value	21.3 kVA
● up to 500 V for current peak value n=20 rated value	23.3 kVA
● up to 690 V for current peak value n=20 rated value	25 kVA
<b>operating apparent power at AC-6a</b>	
● up to 230 V for current peak value n=30 rated value	8.1 kVA
● up to 400 V for current peak value n=30 rated value	14.2 kVA
● up to 500 V for current peak value n=30 rated value	15.5 kVA

<ul style="list-style-type: none"> <li>• up to 690 V for current peak value n=30 rated value</li> </ul>	21.5 kVA
<b>short-time withstand current in cold operating state up to 40 °C</b> <ul style="list-style-type: none"> <li>• limited to 1 s switching at zero current maximum</li> <li>• limited to 5 s switching at zero current maximum</li> <li>• limited to 10 s switching at zero current maximum</li> <li>• limited to 30 s switching at zero current maximum</li> <li>• limited to 60 s switching at zero current maximum</li> </ul>	499 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value
<b>no-load switching frequency</b> <ul style="list-style-type: none"> <li>• at DC</li> </ul>	1 500 1/h
<b>operating frequency</b> <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> <li>• at AC-2 maximum</li> <li>• at AC-3 maximum</li> <li>• at AC-3e               <ul style="list-style-type: none"> <li>— maximum</li> </ul> </li> <li>• at AC-4 maximum</li> </ul>	1 000 1/h 750 1/h 750 1/h 750 1/h 250 1/h
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	DC
<b>control supply voltage at DC rated value</b>	24 V
<b>operating range factor control supply voltage rated value of magnet coil at DC</b> <ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	0.8 1.1
<b>design of the surge suppressor</b>	with diode assemblies
<b>closing power of magnet coil at DC</b>	5.9 W
<b>holding power of magnet coil at DC</b>	5.9 W
<b>closing delay</b> <ul style="list-style-type: none"> <li>• at DC</li> </ul>	50 ... 170 ms
<b>opening delay</b> <ul style="list-style-type: none"> <li>• at DC</li> </ul>	15 ... 18 ms
<b>arcing time</b>	10 ... 10 ms
<b>control version of the switch operating mechanism</b>	Standard A1 - A2
<b>Auxiliary circuit</b>	
<b>design of the auxiliary switch</b>	on the front, non-detachable
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> </ul>	6 A 2 A 2 A 1 A 0.9 A 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>	27 A
<ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>	27 A
<b>yielded mechanical performance [hp]</b>	
<ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> <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>	2 hp 5 hp  10 hp 10 hp 20 hp 25 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>	
<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 coordination 2 required</li> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 125 A (690 V, 100 kA), aM: 50 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA) gG: 50 A (690 V, 100 kA), aM: 25 A (690 V, 100 kA), BS88: 50 A (415 V, 80 kA) gG: 10 A (500 V, 1 kA)
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	+/-180° 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 and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
<b>height</b>	102 mm
<b>width</b>	45 mm
<b>depth</b>	154 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> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>	10 mm 10 mm 10 mm 0 mm  10 mm 10 mm 6 mm 10 mm  10 mm 10 mm 10 mm 6 mm
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> <li>• at contactor for auxiliary contacts</li> <li>• of magnet coil</li> </ul>	spring-loaded terminals spring-loaded terminals Spring-type terminals Spring-type terminals
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> </ul>	2x (1 ... 10 mm <sup>2</sup> ) 2x (1 ... 10 mm <sup>2</sup> ) 2x (1 ... 6 mm <sup>2</sup> )

— finely stranded without core end processing	2x (1 ... 6 mm <sup>2</sup> )
• for AWG cables for main contacts	2x (18 ... 8)
<b>connectable conductor cross-section for main contacts</b>	
• solid	1 ... 10 mm <sup>2</sup>
• stranded	1 ... 10 mm <sup>2</sup>
• finely stranded with core end processing	1 ... 6 mm <sup>2</sup>
• finely stranded without core end processing	1 ... 6 mm <sup>2</sup>
<b>connectable conductor cross-section for auxiliary contacts</b>	
• solid or stranded	0.5 ... 2.5 mm <sup>2</sup>
• finely stranded with core end processing	0.5 ... 1.5 mm <sup>2</sup>
• finely stranded without core end processing	0.5 ... 2.5 mm <sup>2</sup>
<b>type of connectable conductor cross-sections</b>	
• for auxiliary contacts	
— solid or stranded	2x (0.5 ... 2.5 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.5 ... 1.5 mm <sup>2</sup> )
— finely stranded without core end processing	2x (0.5 ... 2.5 mm <sup>2</sup> )
• for AWG cables for auxiliary contacts	2x (20 ... 14)
<b>AWG number as coded connectable conductor cross section for main contacts</b>	18 ... 8
<b>AWG number as coded connectable conductor cross section for auxiliary contacts</b>	20 ... 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
suitability for use safety-related switching OFF	Yes
<b>service life maximum</b>	20 a
<b>test wear-related service life necessary</b>	Yes
<b>proportion of dangerous failures</b>	
• with low demand rate according to SN 31920	40 %
• with high demand rate according to SN 31920	73 %
<b>B10 value with high demand rate according to SN 31920</b>	1 000 000
<b>failure rate [FIT] with low demand rate according to SN 31920</b>	100 FIT
ISO 13849	
<b>device type according to ISO 13849-1</b>	3
<b>overdimensioning according to ISO 13849-2 necessary</b>	Yes
IEC 61508	
<b>safety device type according to IEC 61508-2</b>	Type A
Electrical Safety	
<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front

### Approvals Certificates

#### General Product Approval



[KC](#)

General Product Approval	EMV	Test Certificates	Maritime application
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[Type Test Certificates/Test Report](#)



[Special Test Certificates](#)



Maritime application	other
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[Miscellaneous](#)

other	Railway	Dangerous goods	Environment
	<a href="#">Confirmation</a>	<a href="#">Special Test Certificate</a>	<a href="#">Transport Information</a>
			
			<a href="#">Environmental Confirmations</a>

#### 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=3RT2027-2FB44-3MA0>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-2FB44-3MA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2FB44-3MA0>

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

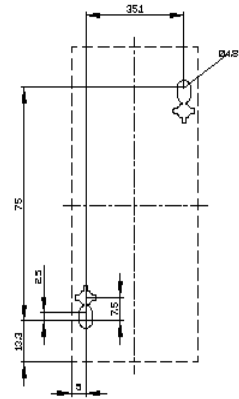
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2027-2FB44-3MA0&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-2FB44-3MA0&lang=en)

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

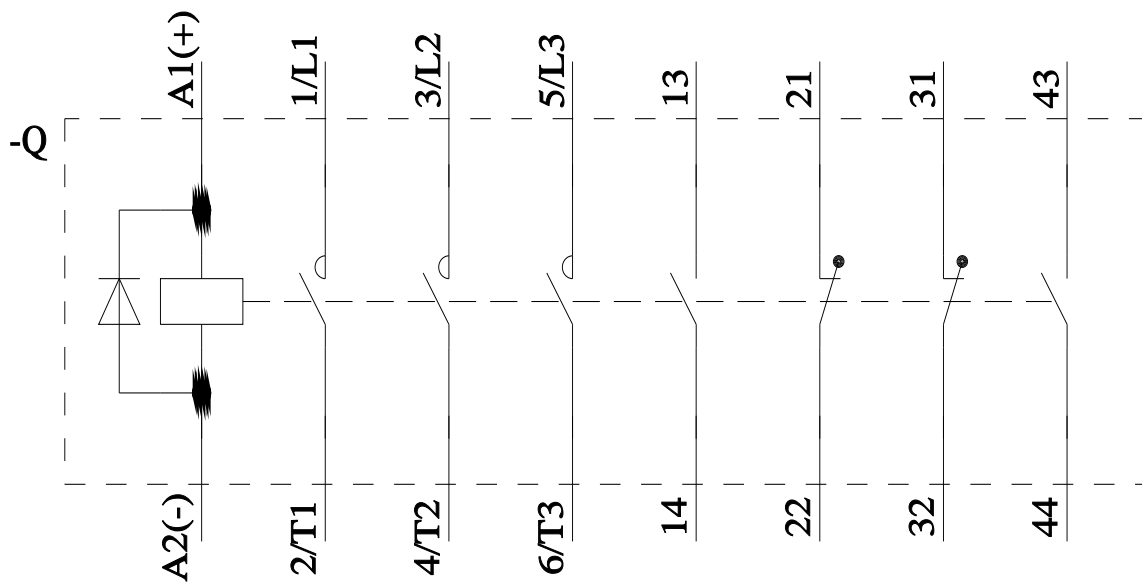
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2FB44-3MA0/char>

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

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-2FB44-3MA0&objecttype=14&gridview=view1>







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