



power contactor, AC-3e/AC-3 500 A, 250 kW / 400 V AC (50-60 Hz) / DC  
 Uc: 23-26 V 3-pole, auxiliary contacts 2 NO + 2 NC drive: conventional  
 main circuit: busbar control and auxiliary circuit: spring-loaded terminal

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Power contactor
<b>product type designation</b>	3RT1
<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	165 W
• at AC in hot operating state per pole	55 W
• without load current share typical	10 W
<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 safe isolation 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>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 %

## 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	200 A
— up to 1000 V at ambient temperature 60 °C rated value	200 A
• at AC-3	
— at 400 V rated value	500 A
— at 500 V rated value	500 A
— at 690 V rated value	450 A
— at 1000 V rated value	180 A
• at AC-3e	
— at 400 V rated value	500 A
— at 500 V rated value	500 A
— at 690 V rated value	450 A
— at 1000 V rated value	180 A
• at AC-4 at 400 V rated value	430 A
• at AC-5a up to 690 V rated value	536 A
• at AC-5b up to 400 V rated value	415 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	414 A
— up to 400 V for current peak value n=20 rated value	414 A
— up to 500 V for current peak value n=20 rated value	414 A
— up to 690 V for current peak value n=20 rated value	414 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	276 A
— up to 400 V for current peak value n=30 rated value	276 A
— up to 500 V for current peak value n=30 rated value	276 A
— up to 690 V for current peak value n=30 rated value	276 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	370 mm <sup>2</sup>
<b>operational current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	175 A
• at 690 V rated value	150 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

<ul style="list-style-type: none"> <li>● <b>with 2 current paths in series at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>● <b>with 3 current paths in series at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>● <b>at 1 current path at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>● <b>with 2 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>● <b>with 3 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>	<p>400 A 400 A 400 A 400 A 4 A 2 A</p> <p>400 A 400 A 400 A 400 A 11 A 5.2 A</p> <p>400 A 11 A 0.6 A 0.18 A 0.125 A</p> <p>400 A 400 A 400 A 2.5 A 0.65 A 0.37 A</p> <p>400 A 400 A 400 A 400 A 1.4 A 0.75 A</p>
<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> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> <li>— at 1000 V rated value</li> </ul> </li> <li>● at AC-3e <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> <li>— at 1000 V rated value</li> </ul> </li> </ul>	<p>160 kW 250 kW 315 kW 400 kW 250 kW</p> <p>160 kW 250 kW 315 kW 400 kW 250 kW</p>
<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> <li>● at 690 V rated value</li> </ul>	<p>98 kW 148 kW</p>
<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> <li>● up to 400 V for current peak value n=20 rated value</li> <li>● up to 500 V for current peak value n=20 rated value</li> <li>● up to 690 V for current peak value n=20 rated value</li> <li>● up to 1000 V for current peak value n=20 rated value</li> </ul>	<p>160 000 kVA 280 000 VA 350 000 VA 490 000 VA 310 000 VA</p>
<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> <li>● up to 400 V for current peak value n=30 rated value</li> <li>● up to 500 V for current peak value n=30 rated value</li> <li>● up to 690 V for current peak value n=30 rated value</li> <li>● up to 1000 V for current peak value n=30 rated value</li> </ul>	<p>110 000 VA 190 000 VA 230 000 VA 330 000 VA 310 000 VA</p>

**short-time withstand current in cold operating state up to 40 °C**

- limited to 1 s switching at zero current maximum
- limited to 5 s switching at zero current maximum
- limited to 10 s switching at zero current maximum
- limited to 30 s switching at zero current maximum
- limited to 60 s switching at zero current maximum

7 484 A; Use minimum cross-section acc. to AC-1 rated value  
 7 484 A; Use minimum cross-section acc. to AC-1 rated value  
 5 978 A; Use minimum cross-section acc. to AC-1 rated value  
 3 765 A; Use minimum cross-section acc. to AC-1 rated value  
 2 887 A; Use minimum cross-section acc. to AC-1 rated value

**no-load switching frequency**

- at AC
- at DC

2 000 1/h  
 2 000 1/h

**operating frequency**

- at AC-1 maximum
- at AC-2 maximum
- at AC-3 maximum
- at AC-3e maximum
- at AC-4 maximum

500 1/h  
 170 1/h  
 420 1/h  
 420 1/h  
 130 1/h

**Control circuit/ Control****type of voltage of the control supply voltage**

AC/DC

**control supply voltage at AC**

- at 50 Hz rated value
- at 60 Hz rated value

23 ... 26 V  
 23 ... 26 V

**control supply voltage at DC**

- rated value

23 ... 26 V

**operating range factor control supply voltage rated value of magnet coil at DC**

- initial value
- full-scale value

0.8  
 1.1

**operating range factor control supply voltage rated value of magnet coil at AC**

- at 50 Hz
- at 60 Hz

0.8 ... 1.1  
 0.8 ... 1.1  
 with varistor

**design of the surge suppressor****apparent pick-up power of magnet coil at AC**

- at 50 Hz
- at 60 Hz

830 VA  
 830 VA

**inductive power factor with closing power of the coil**

- at 50 Hz
- at 60 Hz

0.9  
 0.9

**apparent holding power of magnet coil at AC**

- at 50 Hz
- at 60 Hz

9.2 VA  
 9.2 VA

**inductive power factor with the holding power of the coil**

- at 50 Hz
- at 60 Hz

0.9  
 0.9

**closing power of magnet coil at DC**

920 W

**holding power of magnet coil at DC**

10 W

**closing delay**

- at AC
- at DC

45 ... 100 ms  
 45 ... 100 ms

**opening delay**

- at AC
- at DC

60 ... 100 ms  
 60 ... 100 ms

**arcing time**

10 ... 15 ms

**control version of the switch operating mechanism**

Standard A1 - A2

**Auxiliary circuit**

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

**operational current at AC-15**

- at 230 V rated value
- at 400 V rated value
- at 500 V rated value

6 A  
 3 A  
 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> <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> <li>• at 600 V rated value</li> </ul>	10 A 2 A 2 A 1 A 0.9 A 0.3 A 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> <li>• at 600 V rated value</li> </ul>	477 A 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: 630 A (690 V, 100 kA) gG: 500 A (690 V, 100 kA), aM: 500 A (690 V, 50 kA), BS88: 500 A (415 V, 50 kA) gG: 10 A (500 V, 1 kA)
<b>Installation/ mounting/ dimensions</b>	
<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</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> <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>	20 mm 10 mm 10 mm 0 mm  20 mm 10 mm 10 mm 10 mm  20 mm 10 mm 10 mm 10 mm
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	

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

**width of connection bar**

**thickness of connection bar**

**diameter of holes**

**number of holes**

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

- stranded

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

- solid or stranded
- finely stranded with core end processing
- finely stranded without core end processing

**type of connectable conductor cross-sections**

- for auxiliary contacts
  - solid
  - solid or stranded
  - finely stranded with core end processing
  - finely stranded without core end processing
- at AWG cables for auxiliary contacts

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

- for auxiliary contacts

Connection bar  
 spring-loaded terminals  
 Spring-type terminals  
 Spring-type terminals  
 25 mm  
 6 mm  
 11 mm  
 1

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

0.25 ... 2.5 mm<sup>2</sup>  
 0.25 ... 1.5 mm<sup>2</sup>  
 0.25 ... 2.5 mm<sup>2</sup>

2x (0.25 ... 2.5 mm<sup>2</sup>)  
 2x (0,25 ... 2,5 mm<sup>2</sup>)  
 2x (0.25 ... 1.5 mm<sup>2</sup>)  
 2x (0.25 ... 2.5 mm<sup>2</sup>)  
 2x (24 ... 14)

24 ... 14

**Safety related data**

**product function**

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

B10 value with high demand rate according to SN 31920  
 T1 value for proof test interval or service life according to IEC 61508

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

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

**suitability for use**

- safety-related switching OFF

Yes  
 No  
 1 000 000  
 20 a  
 IP00; IP20 with box terminal/cover  
 finger-safe, for vertical contact from the front with box terminal/cover  
 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**



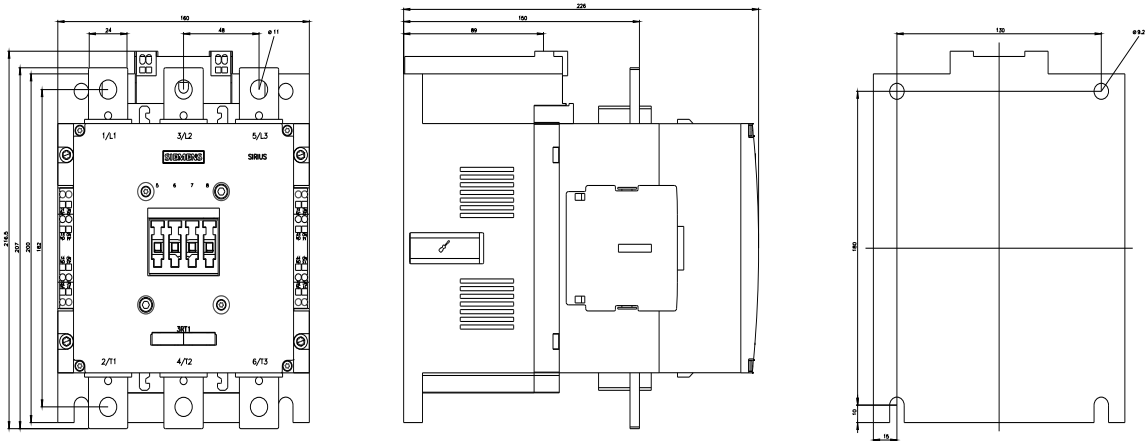
[Confirmation](#)

[Miscellaneous](#)

[Miscellaneous](#)

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

#### 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=3RT1076-2AB36>**Cax online generator**<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1076-2AB36>**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**<https://support.industry.siemens.com/cs/ww/en/ps/3RT1076-2AB36>**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1076-2AB36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1076-2AB36&lang=en)**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**<https://support.industry.siemens.com/cs/ww/en/ps/3RT1076-2AB36/char>**Further characteristics (e.g. electrical endurance, switching frequency)**<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1076-2AB36&objecttype=14&gridview=view1>



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