



power contactor, AC-3 12 A, 5.5 kW / 400 V 2 NO + 2 NC, 230 V AC 50 / 60 Hz, 3-pole Size S00, Spring-type terminal Removable auxiliary switch

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
<b>General technical data</b>	
size of contactor	S00
product extension	
• function module for communication	No
• auxiliary switch	No
power loss [W] for rated value of the current at AC in hot operating state	3.6 W
• per pole	1.2 W
power loss [W] for rated value of the current without load current share typical	5.7 W
surge voltage resistance	
• of main circuit rated value	6 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	7,3g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (switching cycles)	
• 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
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.10.2009 00:00:00
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
<b>Main circuit</b>	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage at AC-3 rated value maximum	690 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>	22 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> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul> </li> </ul>	22 A 20 A
<ul style="list-style-type: none"> <li>● at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	12 A 9.2 A 6.7 A
● at AC-4 at 400 V rated value	8.5 A
● at AC-5a up to 690 V rated value	19.4 A
● at AC-5b up to 400 V rated value	9.9 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> <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> </ul> </li> </ul>	7.2 A 7.2 A 7.2 A 6.7 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> <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> </ul> </li> </ul>	4.8 A 4.8 A 4.8 A 4.8 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 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> <li>● at 690 V rated value</li> </ul>	4.1 A 3.3 A
<b>operational current</b>	
<ul style="list-style-type: none"> <li>● at 1 current path at DC-1 <ul style="list-style-type: none"> <li>— at 24 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>	20 A 2.1 A 0.8 A 0.6 A 0.6 A
<ul style="list-style-type: none"> <li>● with 2 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 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>	20 A 12 A 1.6 A 0.8 A 0.7 A
<ul style="list-style-type: none"> <li>● with 3 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 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>	20 A 20 A 20 A 1.3 A 1 A
<b>operational current</b>	
<ul style="list-style-type: none"> <li>● at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>	20 A

<ul style="list-style-type: none"> <li>— at 110 V rated value</li> <li>● with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> </ul> </li> <li>● with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 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>0.1 A</p> <p>20 A</p> <p>0.35 A</p> <p>20 A</p> <p>20 A</p> <p>1.5 A</p> <p>0.2 A</p> <p>0.2 A</p>
<p><b>operating power</b></p> <ul style="list-style-type: none"> <li>● at AC-2 at 400 V rated value</li> <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> </ul> </li> </ul>	<p>5.5 kW</p> <p>3 kW</p> <p>5.5 kW</p> <p>5.5 kW</p> <p>5.5 kW</p>
<p><b>operating power for approx. 200000 operating cycles at AC-4</b></p> <ul style="list-style-type: none"> <li>● at 400 V rated value</li> <li>● at 690 V rated value</li> </ul>	<p>2 kW</p> <p>2.5 kW</p>
<p><b>operating apparent power at AC-6a</b></p> <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> </ul>	<p>2.8 kV·A</p> <p>4.9 kV·A</p> <p>6.2 kV·A</p> <p>8 kV·A</p>
<p><b>operating apparent power at AC-6a</b></p> <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> </ul>	<p>1.9 kV·A</p> <p>3.3 kV·A</p> <p>4.1 kV·A</p> <p>5.7 kV·A</p>
<p><b>short-time withstand current in cold operating state up to 40 °C</b></p> <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>	<p>200 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>123 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>96 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>74 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>61 A; Use minimum cross-section acc. to AC-1 rated value</p>
<p><b>no-load switching frequency</b></p> <ul style="list-style-type: none"> <li>● at AC</li> </ul>	<p>10 000 1/h</p>
<p><b>operating frequency</b></p> <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-4 maximum</li> </ul>	<p>1 000 1/h</p> <p>750 1/h</p> <p>750 1/h</p> <p>250 1/h</p>
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC
<b>control supply voltage at AC</b>	
<ul style="list-style-type: none"> <li>● at 50 Hz rated value</li> <li>● at 60 Hz rated value</li> </ul>	<p>230 V</p> <p>230 V</p>
<b>operating range factor control supply voltage rated value of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>● at 50 Hz</li> <li>● at 60 Hz</li> </ul>	<p>0.8 ... 1.1</p> <p>0.85 ... 1.1</p>
<b>apparent pick-up power of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>● at 50 Hz</li> <li>● at 60 Hz</li> </ul>	<p>37 V·A</p> <p>33 V·A</p>
<b>inductive power factor with closing power of the coil</b>	
<ul style="list-style-type: none"> <li>● at 50 Hz</li> </ul>	<p>0.8</p>

<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	0.75
<b>apparent holding power of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	5.7 V·A 4.4 V·A
<b>inductive power factor with the holding power of the coil</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	0.25 0.25
<b>closing delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	9 ... 35 ms
<b>opening delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	7 ... 13 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>	
<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> <li>• at 600 V rated value</li> </ul>	6 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>	11 A 11 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>	0.5 hp 2 hp 3 hp 3 hp 7.5 hp 10 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</li> </ul>	

- with type of coordination 1 required
- with type of assignment 2 required

- for short-circuit protection of the auxiliary switch required

gG: 50A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)  
 gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)  
 gG: 10 A (500 V, 1 kA)

#### Installation/ mounting/ dimensions

<b>mounting position</b>	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
<b>fastening method</b>	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
<ul style="list-style-type: none"> <li>● side-by-side mounting</li> </ul>	Yes
<b>height</b>	70 mm
<b>width</b>	45 mm
<b>depth</b>	121 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 10 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 10 mm</li> <li>— upwards 10 mm</li> <li>— at the side 6 mm</li> <li>— downwards 10 mm</li> </ul> </li> <li>● for live parts           <ul style="list-style-type: none"> <li>— forwards 10 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 6 mm</li> </ul> </li> </ul>	

#### Connections/ Terminals

<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 2x (0.5 ... 4 mm<sup>2</sup>)</li> <li>— solid or stranded 2x (0,5 ... 4 mm<sup>2</sup>)</li> <li>— finely stranded with core end processing 2x (0.5 ... 2.5 mm<sup>2</sup>)</li> <li>— finely stranded without core end processing 2x (0.5 ... 2.5 mm<sup>2</sup>)</li> </ul> </li> <li>● at AWG cables for main contacts 2x (20 ... 12)</li> </ul>	
<b>connectable conductor cross-section for main contacts</b>	
<ul style="list-style-type: none"> <li>● solid 0.5 ... 4 mm<sup>2</sup></li> <li>● 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> <li>● finely stranded without core end processing 0.5 ... 2.5 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> <li>● finely stranded without 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 or stranded 2x (0,5 ... 4 mm<sup>2</sup>)</li> <li>— finely stranded with core end processing 2x (0.5 ... 2.5 mm<sup>2</sup>)</li> <li>— finely stranded without core end processing 2x (0.5 ... 2.5 mm<sup>2</sup>)</li> </ul> </li> </ul>	

<ul style="list-style-type: none"> <li>at AWG cables for auxiliary contacts</li> </ul>	2x (20 ... 12)
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>for main contacts</li> </ul>	20 ... 12
<ul style="list-style-type: none"> <li>for auxiliary contacts</li> </ul>	20 ... 12

Safety related data	
product function mirror contact acc. to IEC 60947-4-1	Yes
B10 value with high demand rate acc. to SN 31920	1 000 000
<b>proportion of dangerous failures</b>	
<ul style="list-style-type: none"> <li>with low demand rate acc. to SN 31920</li> </ul>	40 %
<ul style="list-style-type: none"> <li>with high demand rate acc. to SN 31920</li> </ul>	73 %
failure rate [FIT] with low demand rate acc. to SN 31920	100 FIT
product function positively driven operation acc. to IEC 60947-5-1	No
T1 value for proof test interval or service life acc. to IEC 61508	20 y
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front
<b>suitability for use</b>	
<ul style="list-style-type: none"> <li>safety-related switching OFF</li> </ul>	Yes

**Certificates/ approvals**

General Product Approval	EMC
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[KC](#)



Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)

[UK Declaration of Conformity](#)



EG-Konf.

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS

**Marine / Shipping**



LRS



PRS



RINA



RMRS



DNV GL

**other**

[Confirmation](#)



VDE

[Confirmation](#)

**Further information**

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?mfb=3RT2017-2AP04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2AP04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AP04>

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

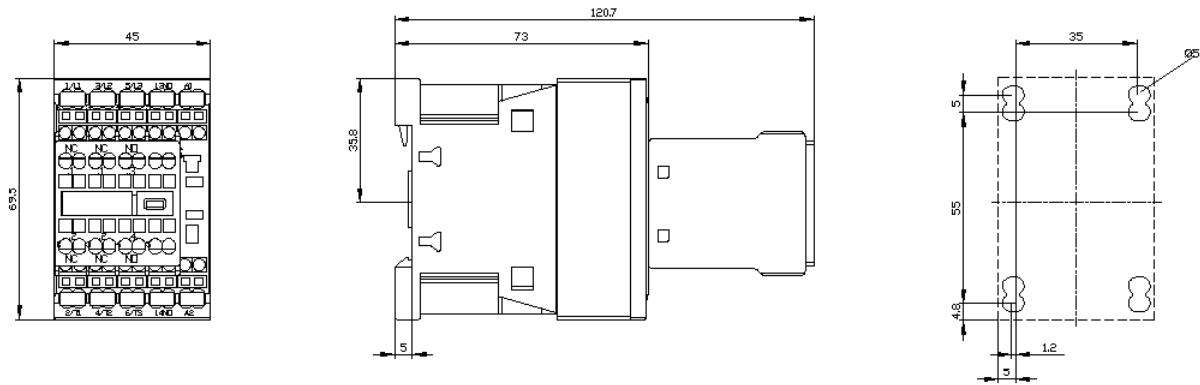
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2017-2AP04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2AP04&lang=en)

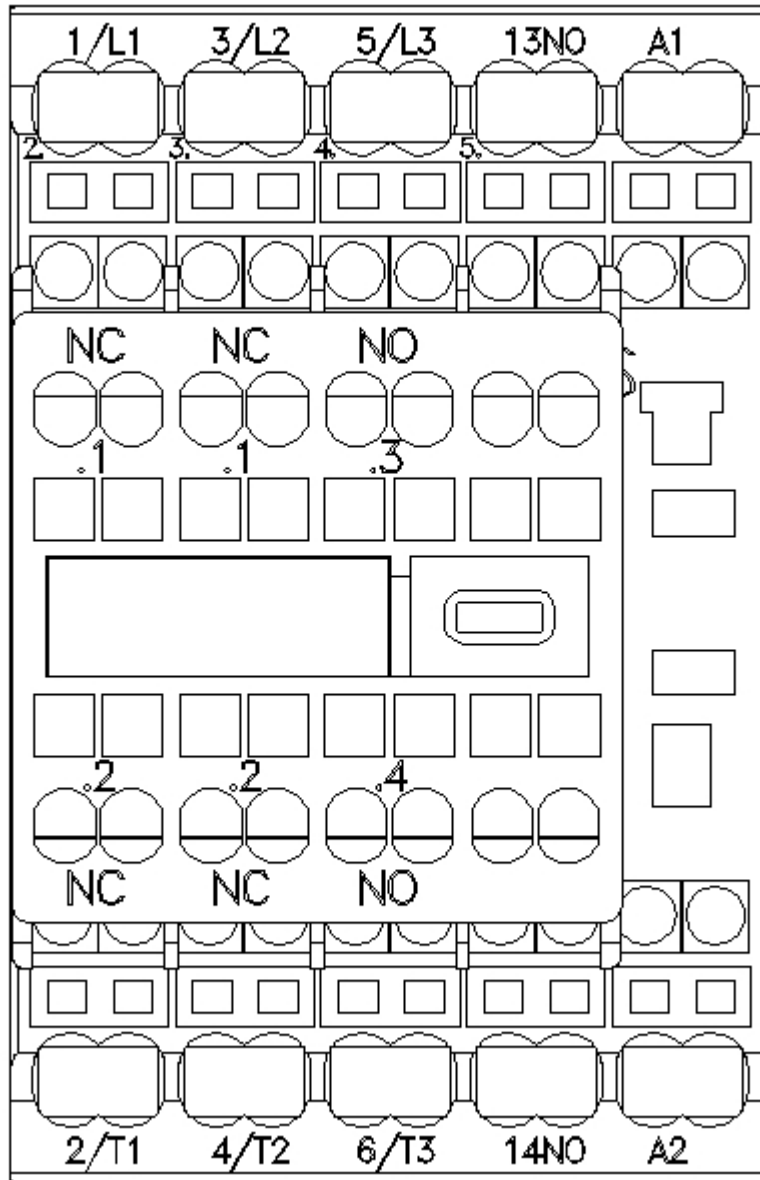
Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AP04/char>

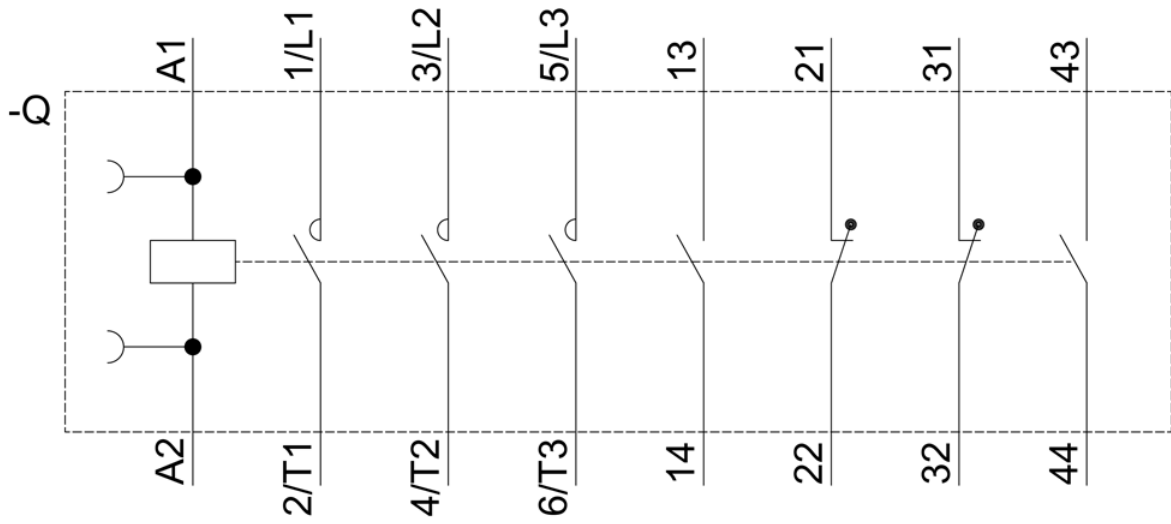
Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2AP04&objecttype=14&gridview=view1>









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