



power contactor, AC-3 40 A, 18.5 kW / 400 V 2 NO + 2 NC, AC / DC 84-155 V, with varistor, 3-pole, Size S2, screw terminal

<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>	S2
<b>product extension</b>	
• function module for communication	No
• auxiliary switch	No
<b>power loss [W] for rated value of the current at AC in hot operating state</b>	6.6 W
• per pole	2.2 W
<b>power loss [W] for rated value of the current without load current share typical</b>	2 W
<b>surge voltage resistance</b>	
• of main circuit rated value	6 kV
• of auxiliary circuit rated value	6 kV
<b>maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1</b>	400 V
<b>shock resistance at rectangular impulse</b>	
• at AC	6.1g / 5 ms, 3.7g / 10 ms
• at DC	6.1g / 5 ms, 3.7g / 10 ms
<b>shock resistance with sine pulse</b>	
• at AC	9.6g / 5 ms, 5.8g / 10 ms
• at DC	9.6g / 5 ms, 5.8g / 10 ms
<b>mechanical service life (switching 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 acc. to IEC 81346-2</b>	Q
<b>Substance Prohibition (Date)</b>	01.10.2014 00:00:00
<b>Ambient conditions</b>	
<b>installation altitude at height above sea level maximum</b>	2 000 m
• ambient temperature during operation	-25 ... +60 °C
• ambient temperature during storage	-55 ... +80 °C
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3

<b>number of NO contacts for main contacts</b>	3
<ul style="list-style-type: none"> <li>operating voltage at AC-3 rated value maximum</li> </ul>	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>	60 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>	60 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 60 °C rated value</li> </ul> </li> </ul>	55 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>	41 A
<ul style="list-style-type: none"> <li>at AC-3 <ul style="list-style-type: none"> <li>at 500 V rated value</li> </ul> </li> </ul>	41 A
<ul style="list-style-type: none"> <li>at AC-3 <ul style="list-style-type: none"> <li>at 690 V rated value</li> </ul> </li> </ul>	24 A
<ul style="list-style-type: none"> <li>at AC-4 at 400 V rated value</li> </ul>	35 A
<ul style="list-style-type: none"> <li>at AC-5a up to 690 V rated value</li> </ul>	52.8 A
<ul style="list-style-type: none"> <li>at AC-5b up to 400 V rated value</li> </ul>	33.2 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>	36.5 A
<ul style="list-style-type: none"> <li>at AC-6a <ul style="list-style-type: none"> <li>up to 400 V for current peak value n=20 rated value</li> </ul> </li> </ul>	36.5 A
<ul style="list-style-type: none"> <li>at AC-6a <ul style="list-style-type: none"> <li>up to 500 V for current peak value n=20 rated value</li> </ul> </li> </ul>	36.5 A
<ul style="list-style-type: none"> <li>at AC-6a <ul style="list-style-type: none"> <li>up to 690 V for current peak value n=20 rated value</li> </ul> </li> </ul>	24 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>	24.2 A
<ul style="list-style-type: none"> <li>at AC-6a <ul style="list-style-type: none"> <li>up to 400 V for current peak value n=30 rated value</li> </ul> </li> </ul>	24.2 A
<ul style="list-style-type: none"> <li>at AC-6a <ul style="list-style-type: none"> <li>up to 500 V for current peak value n=30 rated value</li> </ul> </li> </ul>	24.2 A
<ul style="list-style-type: none"> <li>at AC-6a <ul style="list-style-type: none"> <li>up to 690 V for current peak value n=30 rated value</li> </ul> </li> </ul>	24 A
minimum cross-section in main circuit at maximum AC-1 rated value	16 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>	22 A
<ul style="list-style-type: none"> <li>at 690 V rated value</li> </ul>	18.5 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> </ul> </li> </ul>	55 A
<ul style="list-style-type: none"> <li>at 1 current path at DC-1 <ul style="list-style-type: none"> <li>at 110 V rated value</li> </ul> </li> </ul>	4.5 A
<ul style="list-style-type: none"> <li>at 1 current path at DC-1 <ul style="list-style-type: none"> <li>at 220 V rated value</li> </ul> </li> </ul>	1 A
<ul style="list-style-type: none"> <li>at 1 current path at DC-1 <ul style="list-style-type: none"> <li>at 440 V rated value</li> </ul> </li> </ul>	0.4 A
<ul style="list-style-type: none"> <li>at 1 current path at DC-1 <ul style="list-style-type: none"> <li>at 600 V rated value</li> </ul> </li> </ul>	0.25 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> </ul> </li> </ul>	55 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 110 V rated value</li> </ul> </li> </ul>	45 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 220 V rated value</li> </ul> </li> </ul>	5 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 440 V rated value</li> </ul> </li> </ul>	1 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 600 V rated value</li> </ul> </li> </ul>	0.8 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> </ul> </li> </ul>	55 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 110 V rated value</li> </ul> </li> </ul>	55 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 220 V rated value</li> </ul> </li> </ul>	45 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 440 V rated value</li> </ul> </li> </ul>	2.9 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 600 V rated value</li> </ul> </li> </ul>	1.4 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> <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>● 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> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 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>	35 A 2.5 A 1 A 0.1 A 0.06 A  55 A 25 A 5 A 0.27 A 0.16 A  55 A 55 A 25 A 0.6 A 0.35 A
<b>operating power</b>	
<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>	18.5 kW  11 kW 18.5 kW 22 kW 22 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> <li>● at 690 V rated value</li> </ul>	11.6 kW 16.8 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> <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>	14.5 kV·A 25.2 kV·A 31.6 kV·A 28.6 kV·A
<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> </ul>	9.6 kV·A 16.8 kV·A 21 kV·A 28.6 kV·A
<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>	843 A; Use minimum cross-section acc. to AC-1 rated value 596 A; Use minimum cross-section acc. to AC-1 rated value 400 A; Use minimum cross-section acc. to AC-1 rated value 241 A; Use minimum cross-section acc. to AC-1 rated value 196 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 AC</li> <li>● at DC</li> </ul>	1 500 1/h 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-4 maximum</li> </ul>	1 200 1/h 750 1/h 1 000 1/h 300 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>	
<ul style="list-style-type: none"> <li>● at 50 Hz rated value</li> <li>● at 60 Hz rated value</li> </ul>	83 ... 155 V 83 ... 155 V

<b>control supply voltage at DC</b> • rated value	83 ... 155 V
<b>operating range factor control supply voltage rated value of magnet coil at DC</b> • initial value • full-scale value	0.8 1.1
<b>operating range factor control supply voltage rated value of magnet coil at AC</b> • at 50 Hz • at 60 Hz	0.8 ... 1.1 0.8 ... 1.1
<b>design of the surge suppressor</b>	with varistor
<b>inrush current peak</b>	1.5 A
<b>duration of inrush current peak</b>	50 µs
<b>locked-rotor current mean value</b>	0.45 A
<b>locked-rotor current peak</b>	0.8 A
<b>duration of locked-rotor current</b>	230 ms
<b>holding current mean value</b>	12 mA
<b>apparent pick-up power of magnet coil at AC</b> • at 50 Hz • at 60 Hz	40 V·A 40 V·A
<b>apparent holding power of magnet coil at AC</b> • at 50 Hz • at 60 Hz	2 V·A 2 V·A
<b>closing power of magnet coil at DC</b>	23 W
<b>holding power of magnet coil at DC</b>	1 W
<b>closing delay</b> • at AC • at DC	45 ... 70 ms 45 ... 60 ms
<b>opening delay</b> • at AC • at DC	35 ... 55 ms 35 ... 55 ms
<b>arcing time</b>	10 ... 20 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 • at 400 V rated value • at 500 V rated value • at 690 V rated value	6 A 3 A 2 A 1 A
<b>operational current at DC-12</b> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
<b>operational current at DC-13</b> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value	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>	40 A
<ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>	41 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>	3 hp 7.5 hp  10 hp 15 hp 30 hp 40 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: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA) gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA) 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
<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>	114 mm
<b>width</b>	55 mm
<b>depth</b>	174 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>	screw-type terminals screw-type terminals Screw-type terminals Screw-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 or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> </ul>	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> ) 2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )

<ul style="list-style-type: none"> <li>at AWG cables for main contacts</li> </ul>	2x (18 ... 2), 1x (18 ... 1)
<b>connectable conductor cross-section for main contacts</b> <ul style="list-style-type: none"> <li>finely stranded with core end processing</li> </ul>	1 ... 35 mm <sup>2</sup>
<b>connectable conductor cross-section for auxiliary contacts</b> <ul style="list-style-type: none"> <li>solid or stranded</li> <li>finely stranded with core end processing</li> </ul>	0.5 ... 2.5 mm <sup>2</sup> 0.5 ... 2.5 mm <sup>2</sup>
<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</li> <li>finely stranded with core end processing</li> </ul> </li> <li>at AWG cables for auxiliary contacts</li> </ul>	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ) 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) 2x (20 ... 16), 2x (18 ... 14)
<ul style="list-style-type: none"> <li>AWG number as coded connectable conductor cross section for main contacts</li> <li>AWG number as coded connectable conductor cross section for auxiliary contacts</li> </ul>	18 ... 1 20 ... 14

Safety related data	
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> <li>with high demand rate acc. to SN 31920</li> </ul>	40 % 73 %
failure rate [FIT] with low demand rate acc. to SN 31920	100 FIT
<b>product function</b> <ul style="list-style-type: none"> <li>mirror contact acc. to IEC 60947-4-1</li> <li>positively driven operation acc. to IEC 60947-5-1</li> </ul>	Yes 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
suitability for use safety-related switching OFF	Yes

Certificates/ approvals	
General Product Approval	EMC



[KC](#)



Declaration of Conformity	Test Certificates	Marine / Shipping
EG-Konf.	<a href="#">Miscellaneous</a> <a href="#">Special Test Certificate</a> <a href="#">Type Test Certificates/Test Report</a>	 

Marine / Shipping	other
LRS PRS RINA RMRS DNV-GL	<a href="#">Confirmation</a>

other
<a href="#">Confirmation</a>

## 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?mlfb=3RT2035-1NF34>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2035-1NF34>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1NF34>

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

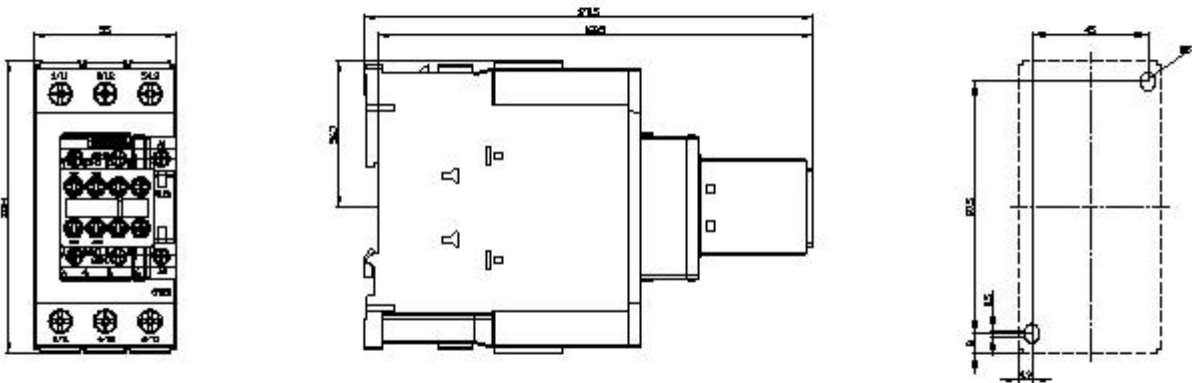
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2035-1NF34&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2035-1NF34&lang=en)

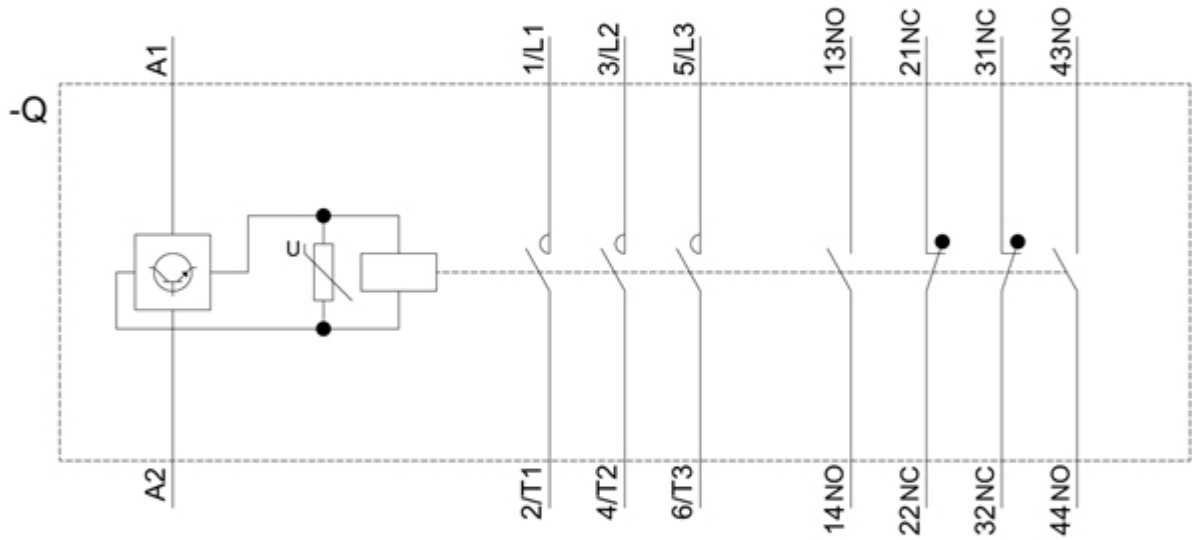
Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1NF34/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2035-1NF34&objecttype=14&gridview=view1>





last modified:

12/21/2020 