



power contactor, AC-3e/AC-3 400 A, 200 kW / 400 V AC (50-60 Hz) / DC 96-127 V x (0.8-1.1) F-PLC input 24 V DC 3-pole, auxiliary contacts 2 NO + 2 NC  
 permanently mounted drive: electronic main circuit: busbar control and auxiliary circuit: screw 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	105 W
• at AC in hot operating state per pole	35 W
• without load current share typical	3.6 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	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 protective separation 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 Prohibitance (Date)</b>	
<b>SVHC substance name</b>	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Perfluorobutane sulfonic acid (PFBS) and its salts - -
<b>Weight</b>	10.266 kg
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	

<ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> </ul>	-25 ... +60 °C -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>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>number of NO contacts for main contacts</b>	3
<b>operating voltage</b>	
<ul style="list-style-type: none"> <li>at AC-3 rated value maximum</li> <li>at AC-3e rated value maximum</li> </ul>	1 000 V 1 000 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> <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> <li>up to 1000 V at ambient temperature 40 °C rated value</li> <li>up to 1000 V at ambient temperature 60 °C rated value</li> </ul> </li> <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> <li>at 1000 V rated value</li> </ul> </li> <li>at AC-3e <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> <li>at 1000 V rated value</li> </ul> </li> <li>at AC-4 at 400 V rated value</li> <li>at AC-5a up to 690 V rated value</li> <li>at AC-5b up to 400 V rated value</li> <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> <li>up to 1000 V for current peak value n=20 rated value</li> </ul> </li> <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> <li>up to 1000 V for current peak value n=30 rated value</li> </ul> </li> </ul>	430 A 430 A 400 A 200 A 200 A 400 A 400 A 400 A 180 A 400 A 400 A 400 A 180 A 350 A 378 A 332 A 395 A 395 A 395 A 395 A 395 A 180 A 264 A 264 A 264 A 264 A 264 A 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>	
<ul style="list-style-type: none"> <li>at 400 V rated value</li> <li>at 690 V rated value</li> </ul>	150 A 135 A
<b>operational current</b>	
<ul style="list-style-type: none"> <li><b>at 1 current path 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> </ul>	400 A 330 A 33 A 3.8 A 0.9 A 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 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 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</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>4 A</p> <p>2 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>11 A</p> <p>5.2 A</p> <p>400 A</p> <p>11 A</p> <p>3 A</p> <p>0.6 A</p> <p>0.18 A</p> <p>0.125 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>2.5 A</p> <p>0.65 A</p> <p>0.37 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>1.4 A</p> <p>0.75 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> <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>200 kW</p> <p>132 kW</p> <p>200 kW</p> <p>250 kW</p> <p>400 kW</p> <p>250 kW</p> <p>132 kW</p> <p>200 kW</p> <p>250 kW</p> <p>400 kW</p> <p>250 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>85 kW</p> <p>133 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> <li>● up to 1000 V for current peak value n=20 rated value</li> </ul>	<p>150 000 kVA</p> <p>270 000 VA</p> <p>340 000 VA</p> <p>470 000 VA</p> <p>310 000 VA</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> </ul>	<p>100 000 VA</p>

<ul style="list-style-type: none"> <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>	180 000 VA 220 000 VA 310 000 VA 310 000 VA
<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>	6 600 A; Use minimum cross-section acc. to AC-1 rated value 5 761 A; Use minimum cross-section acc. to AC-1 rated value 4 143 A; Use minimum cross-section acc. to AC-1 rated value 2 635 A; Use minimum cross-section acc. to AC-1 rated value 2 088 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>	500 1/h 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 maximum</li> <li>• at AC-4 maximum</li> </ul>	200 1/h 200 1/h 200 1/h 200 1/h 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> <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>	96 ... 127 V 96 ... 127 V
<b>control supply voltage at DC rated value</b>	96 ... 127 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>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>	0.8 ... 1.1 0.8 ... 1.1
<b>type of PLC-control input according to IEC 60947-1</b>	Type 1
<b>consumed current at PLC-control input according to IEC 60947-1 maximum</b>	14 mA
<b>voltage at PLC-control input rated value</b>	24 V
<b>operating range factor of the voltage at PLC-control input</b>	0.8 ... 1.1
<b>design of the surge suppressor</b>	with varistor
<b>apparent pick-up power</b> <ul style="list-style-type: none"> <li>• at minimum rated control supply voltage at AC               <ul style="list-style-type: none"> <li>— at 50 Hz</li> <li>— at 60 Hz</li> </ul> </li> <li>• at maximum rated control supply voltage at AC               <ul style="list-style-type: none"> <li>— at 60 Hz</li> <li>— at 50 Hz</li> </ul> </li> </ul>	560 VA 560 VA 750 VA 750 VA
<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>	750 VA 750 VA
<b>inductive power factor with closing power of the coil</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	0.8 0.8
<b>apparent holding power</b> <ul style="list-style-type: none"> <li>• at minimum rated control supply voltage at DC</li> <li>• at maximum rated control supply voltage at DC</li> </ul>	3 VA 3.6 VA
<b>apparent holding power</b> <ul style="list-style-type: none"> <li>• at minimum rated control supply voltage at AC               <ul style="list-style-type: none"> <li>— at 50 Hz</li> <li>— at 60 Hz</li> </ul> </li> <li>• at maximum rated control supply voltage at AC               <ul style="list-style-type: none"> <li>— at 50 Hz</li> </ul> </li> </ul>	5.6 VA 5.6 VA 9 VA

— at 60 Hz	9 VA
<b>inductive power factor with the holding power of the coil</b>	
• at 50 Hz	0.5
• at 60 Hz	0.4
<b>closing power of magnet coil at DC</b>	800 W
<b>holding power of magnet coil at DC</b>	3.6 W
<b>closing delay</b>	
• at AC	60 ... 75 ms
• at DC	60 ... 75 ms
<b>opening delay</b>	
• at AC	115 ... 130 ms
• at DC	115 ... 130 ms
<b>recovery time after power failure typical</b>	2 s
<b>arcing time</b>	10 ... 15 ms
<b>control version of the switch operating mechanism</b>	Fail-safe PLC input (F-PLC-IN)
<b>Auxiliary circuit</b>	
<b>design of the auxiliary switch</b>	lateral, permanently connected
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 / P600
<b>Short-circuit protection</b>	
<b>design of the fuse link</b>	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 630 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA)

- for short-circuit protection of the auxiliary switch required

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</b>	screw fixing
<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 20 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 20 mm</li> <li>— upwards 10 mm</li> <li>— at the side 10 mm</li> <li>— downwards 10 mm</li> </ul> </li> <li>• for live parts           <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 10 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>	Connection bar screw-type terminals Screw-type terminals 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>	
<ul style="list-style-type: none"> <li>• for AWG cables for main contacts</li> </ul>	2/0 ... 500 kcmil
<b>connectable conductor cross-section for main contacts</b>	
<ul style="list-style-type: none"> <li>• stranded</li> </ul>	70 ... 240 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 ... 4 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</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for 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> ), max. 2x (0.75 ... 4 mm <sup>2</sup> ) 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> ) 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) 2x (20 ... 16), 2x (18 ... 14), 1x 12
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	18 ... 14

#### Safety related data

<b>product function</b>	
<ul style="list-style-type: none"> <li>• mirror contact according to IEC 60947-4-1</li> <li>• positively driven operation according to IEC 60947-5-1</li> <li>• suitable for safety function</li> </ul>	Yes No Yes
suitability for use safety-related switching OFF	Yes
<b>safe state</b>	off
<b>test wear-related service life necessary</b>	Yes
<b>stop category according to IEC 60204-1</b>	0
<b>proportion of dangerous failures</b>	
<ul style="list-style-type: none"> <li>• with low demand rate according to SN 31920</li> </ul>	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
<b>MTBF</b>	75 a
IEC 62061	
PFHD with high demand rate according to IEC 62061	4.5E-7 1/h
ISO 13849	
<b>performance level (PL) according to ISO 13849-1</b>	c
<b>overdimensioning according to ISO 13849-2 necessary</b>	Yes
IEC 61508	
Safety Integrity Level (SIL) according to IEC 61508	2
<b>safety device type according to IEC 61508-2</b>	Type B
<b>PFHD with high demand rate according to IEC 61508</b>	4.5E-7 1/h
PFDavg with low demand rate according to IEC 61508	0.007
<b>Safe failure fraction (SFF)</b>	93 %
hardware fault tolerance according to IEC 61508	0
T1 value of service life according to IEC 61508	20 a
Electrical Safety	
<b>protection class IP on the front according to IEC 60529</b>	IP00; IP20 with box terminal/cover
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front with box terminal/cover
<b>Approvals Certificates</b>	
<b>General Product Approval</b>	

[Confirmation](#)



EMV	Functional Safety	Test Certificates	other
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RCM

[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Confirmation](#)

[Miscellaneous](#)

Railway	Environment
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[Special Test Certificate](#)

[Environmental Confirmations](#)

**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=3RT1075-6SF36-3PA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1075-6SF36-3PA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6SF36-3PA0>

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

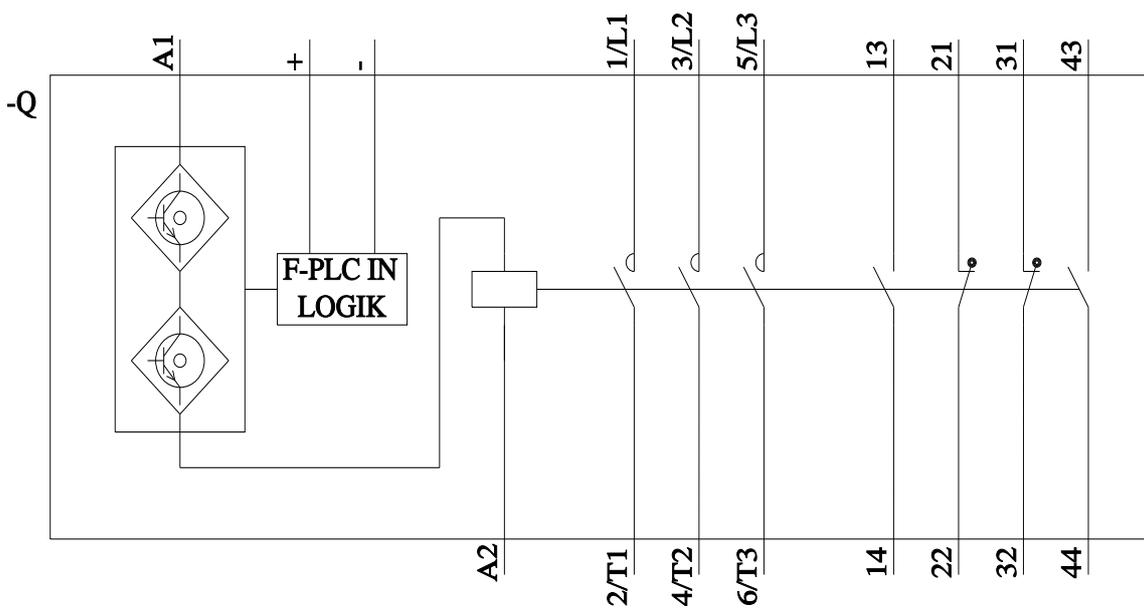
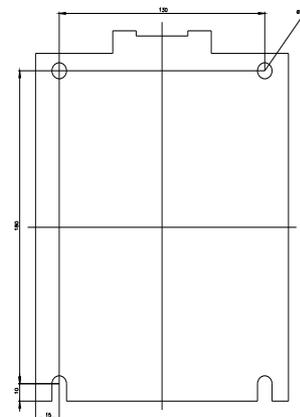
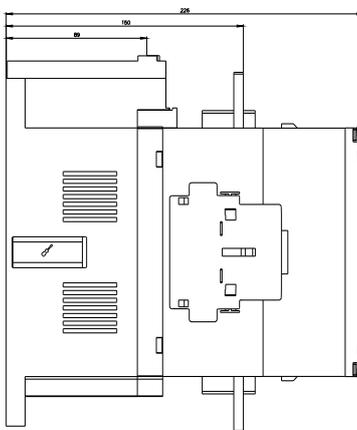
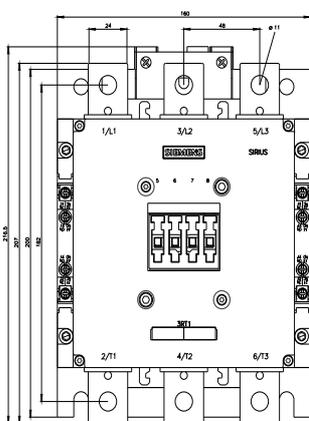
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1075-6SF36-3PA0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1075-6SF36-3PA0&lang=en)

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6SF36-3PA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1075-6SF36-3PA0&objecttype=14&gridview=view1>



last modified:



