

COUPL. CONT.,AC3:37KW/400V, 2NO+2NC, 24 V DC, 3-POLE,  
3NO, SIZE: S3, SCREW TERMINALS, 1NO+1NC, VARISTOR  
INTEGR., PERM. MOUNT. AUX. SWITCH, SUITABLE FOR 2A PLC-  
OUTPUTS



Figure similar

Product brand name	SIRIUS
Product designation	Coupling relay
Product type designation	3RT2

General technical data	
Size of contactor	S3
Product extension	
• function module for communication	No
• Auxiliary switch	Yes
Insulation voltage	
• rated value	1 000 V
Degree of pollution	3
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• between coil and main contacts acc. to EN 60947-1	690 V
Protection class IP	
• on the front	IP20

<ul style="list-style-type: none"> <li>• of the terminal</li> </ul>	IP00
<b>Shock resistance at rectangular impulse</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	6.3 g / 5 ms, 3.6 g / 10 ms 6.3 g / 5 ms, 3.6 g / 10 ms
<b>Shock resistance with sine pulse</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	9.8 g / 5 ms, 5.6 g / 10 ms 9.8 g / 5 ms, 5.6 g / 10 ms
<b>Mechanical service life (switching cycles)</b> <ul style="list-style-type: none"> <li>• of contactor typical</li> <li>• of the contactor with added electronics-compatible auxiliary switch block typical</li> <li>• of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000 5 000 000 10 000 000

<b>Ambient conditions</b>	
<b>Installation altitude at height above sea level</b> <ul style="list-style-type: none"> <li>• maximum</li> </ul>	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>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> </ul>	1 000 V
<b>Operating current</b> <ul style="list-style-type: none"> <li>• at AC-1 at 400 V           <ul style="list-style-type: none"> <li>— at ambient temperature 40 °C rated value</li> </ul> </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> </ul> </li> <li>• at AC-2 at 400 V rated value</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> </ul> </li> </ul>	125 A 125 A 105 A 80 A 80 A 80 A 58 A
<b>Connectable conductor cross-section in main circuit at AC-1</b> <ul style="list-style-type: none"> <li>• at 60 °C minimum permissible</li> <li>• at 40 °C minimum permissible</li> </ul>	35 mm <sup>2</sup> 50 mm <sup>2</sup>

<b>Operating current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	34 A
• at 690 V rated value	24 A
<b>Operating current</b>	
• at 1 current path at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	9 A
— at 220 V rated value	2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.4 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	10 A
— at 440 V rated value	1.8 A
— at 600 V rated value	1 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	80 A
— at 440 V rated value	4.5 A
— at 600 V rated value	2.6 A
<b>Operating current</b>	
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	40 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.15 A
— at 600 V rated value	0.06 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	7 A
— at 440 V rated value	0.42 A
— at 600 V rated value	0.16 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	35 A
— at 440 V rated value	0.8 A

— at 600 V rated value	0.35 A
<b>Operating power</b>	
• at AC-1	
— at 230 V rated value	47 kW
— at 230 V at 60 °C rated value	40 kW
— at 400 V rated value	82 kW
— at 400 V at 60 °C rated value	69 kW
— at 690 V rated value	142 kW
— at 690 V at 60 °C rated value	119 kW
• at AC-2 at 400 V rated value	37 kW
• at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	37 kW
— at 500 V rated value	45 kW
— at 690 V rated value	55 kW
<b>Operating power for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	17.9 kW
• at 690 V rated value	21.8 kW
<b>Thermal short-time current limited to 10 s</b>	760 A
<b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b>	5.3 W
<b>No-load switching frequency</b>	
• at DC	1 000 1/h
<b>Operating frequency</b>	
• at AC-1 maximum	900 1/h
• at AC-2 maximum	400 1/h
• at AC-3 maximum	1 000 1/h
• at AC-4 maximum	300 1/h
<b>Control circuit/ Control</b>	
<b>Type of voltage of the control supply voltage</b>	DC
<b>Control supply voltage at DC</b>	
• rated value	24 V
<b>Operating range factor control supply voltage rated value of magnet coil at DC</b>	
• initial value	0.8
• Full-scale value	1.2
<b>Design of the surge suppressor</b>	with varistor
<b>Inrush current peak</b>	
• at 24 V	3 A
<b>Closing power of magnet coil at DC</b>	25 W
<b>Holding power of magnet coil at DC</b>	0.9 W

<b>Closing delay</b>	
• at DC	50 ... 70 ms
<b>Opening delay</b>	
• at DC	38 ... 57 ms
<b>Arcing time</b>	10 ... 20 ms
<b>Residual current of the electronics for control with signal &lt;0&gt;</b>	
• at AC at 230 V maximum permissible	20 mA
• at DC at 24 V maximum permissible	20 mA

### Auxiliary circuit

<b>Number of NC contacts</b>	
• for auxiliary contacts	
— instantaneous contact	2
<b>Number of NO contacts</b>	
• for auxiliary contacts	
— instantaneous contact	2
Operating current at AC-12 maximum	10 A
<b>Operating 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>Operating 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>Operating current at DC-13</b>	
• at 24 V rated value	6 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)

### UL/CSA ratings

<b>Full-load current (FLA) for three-phase AC motor</b>	
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<ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>	<p>77 A</p> <p>62 A</p>
<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 three-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>	<p>7.5 hp</p> <p>15 hp</p> <p>25 hp</p> <p>30 hp</p> <p>60 hp</p> <p>60 hp</p>
<b>Contact rating of auxiliary contacts according to UL</b>	<p>A600 / P600</p>

### Short-circuit protection

<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>	<p>gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 250 A</p> <p>gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 160 A</p> <p>fuse gG: 10 A</p>
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### Installation/ mounting/ dimensions

<b>Mounting position</b>	<p>+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface</p>
<b>Mounting type</b> <ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>	<p>screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715</p> <p>Yes</p>
<b>Height</b>	<p>140 mm</p>
<b>Width</b>	<p>70 mm</p>
<b>Depth</b>	<p>195 mm</p>
<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>— Backwards</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>— Backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> </ul>	<p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p>

• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm

## Connections/Terminals






<b>Type of electrical connection</b>	
• for main current circuit	screw-type terminals
• for auxiliary and control current circuit	screw-type terminals
<b>Type of connectable conductor cross-sections</b>	
• for main contacts	
— finely stranded with core end processing	2x (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> )
• at AWG conductors for main contacts	2x (10 ... 1/0), 1x (10 ... 2)
<b>Type of connectable conductor cross-sections</b>	
• for auxiliary contacts	
— single or multi-stranded	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
• at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)

## Safety related data

<b>B10 value</b>	
• with high demand rate acc. to SN 31920	1 000 000
<b>Proportion of dangerous failures</b>	
• with low demand rate acc. to SN 31920	40 %
• with high demand rate acc. to SN 31920	73 %
<b>Product function</b>	
• Mirror contact acc. to IEC 60947-4-1	Yes
• positively driven operation acc. to IEC 60947-5-1	No
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<b>Protection against electrical shock</b>	finger-safe when touched vertically from front acc. to IEC 60529

## Certificates/approvals

General Product Approval				Declaration of Conformity	Marine / Shipping
 CCC	 CSA	 UL	 EAC	 EG-Konf.	 ABS

Marine / Shipping	other				
 BUREAU VERITAS	 GL	 LRS	 RMRS	 DNV-GL DNVGL.COM/AF	<a href="#">Confirmation</a>

### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

<http://www.siemens.com/industrial-controls/catalogs>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2045-1KB44-3MA0>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2045-1KB44-3MA0>

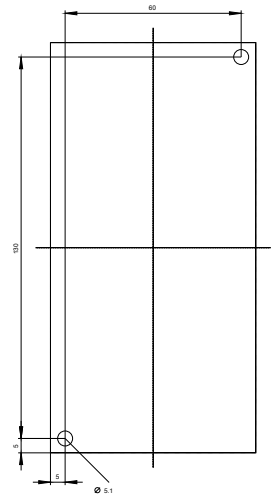
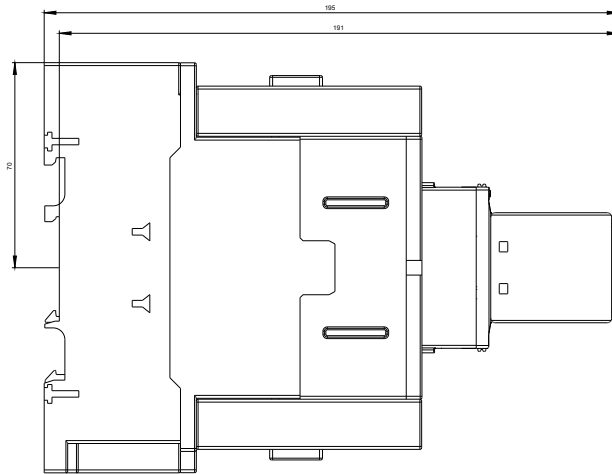
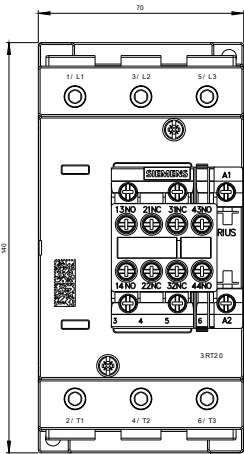
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

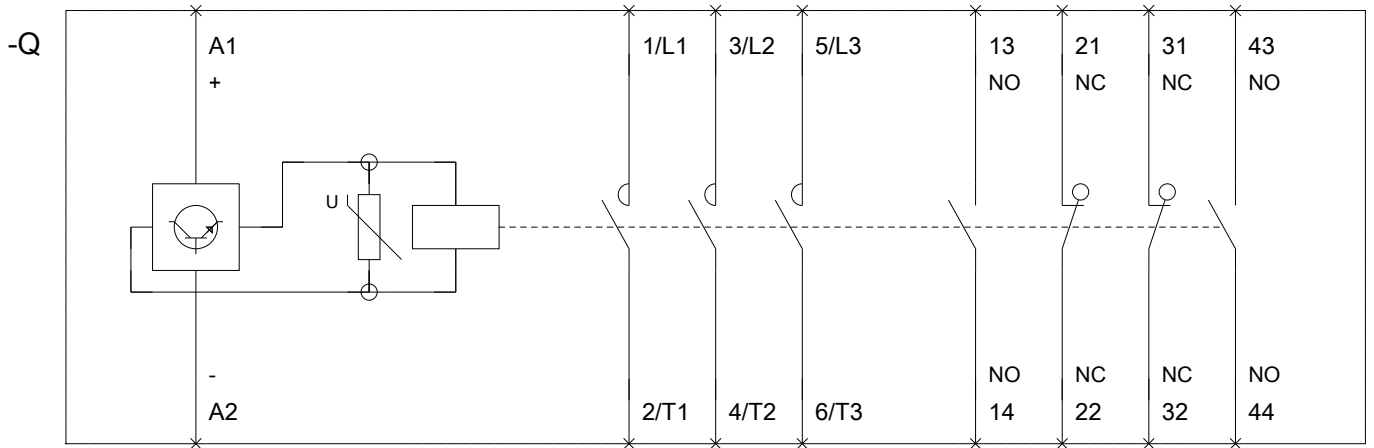
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2045-1KB44-3MA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2045-1KB44-3MA0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2045-1KB44-3MA0&lang=en)







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