



CONTACTOR, AC-3, 4KW/400V, 1NO, DC 24V, 3-POLE, SZ S00  
SCREW TERMINAL

product brand name	SIRIUS
Product designation	3RT2 contactor
<b>General technical data:</b>	
Product expansion function module for communication	No
Insulation voltage	
• Rated value	690 V
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	400 V
Degree of pollution	3
Shock resistance	
• at rectangular impulse	
— for DC	6,7g / 5 ms, 4,2g / 10 ms
• with sine pulse	
— for DC	10,5g / 5 ms, 6,6g / 10 ms
Surge voltage resistance Rated value	6 kV
Mechanical service life (switching cycles)	
• of the contactor typical	30 000 000
• of the contactor with added electronics-compatible auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
Thermal short-time current restricted to 10 s	72 A
Protection class IP	
• on the front	IP20

<ul style="list-style-type: none"> <li>• of the terminal</li> </ul>	IP20
<b>Equipment marking</b>	
<ul style="list-style-type: none"> <li>• acc. to DIN EN 61346-2</li> </ul>	Q
<ul style="list-style-type: none"> <li>• acc. to DIN EN 81346-2</li> </ul>	Q
<b>Main circuit:</b>	
<b>Number of poles for main current circuit</b>	3
<b>Number of NC contacts for main contacts</b>	0
<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>	690 V
<b>Operating current</b>	
<ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— at 400 V at ambient temperature 40 °C Rated value</li> <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> <li>• at AC-4 at 400 V Rated value</li> </ul>	22 A 22 A 20 A 9 A 9 A 7.7 A 6.7 A 8.5 A
<b>Operating current with 1 current path</b>	
<ul style="list-style-type: none"> <li>• 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> <li>• 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> </ul>	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 0.1 A
<b>Operating current with 2 current paths in series</b>	
<ul style="list-style-type: none"> <li>• 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> <li>• at DC-3 at DC-5</li> </ul>	20 A 12 A 1.6 A 0.8 A 0.7 A

— at 110 V Rated value	0.35 A
— at 24 V Rated value	20 A
<b>Operating current with 3 current paths in series</b>	
• at DC-1	
— at 24 V Rated value	20 A
— at 110 V Rated value	20 A
— at 220 V Rated value	20 A
— at 440 V Rated value	1.3 A
— at 600 V Rated value	1 A
• at DC-3 at DC-5	
— at 110 V Rated value	20 A
— at 220 V Rated value	1.5 A
— at 24 V Rated value	20 A
— at 440 V Rated value	0.2 A
— at 600 V Rated value	0.2 A
<b>Operating power</b>	
• at AC-1	
— at 230 V at 60 °C Rated value	7.5 kW
— at 400 V at 60 °C Rated value	13 kW
— at 690 V at 60 °C Rated value	22 kW
<b>Operating power for ≥ 200000 operating cycles at AC-4</b>	
• at 400 V Rated value	2 kW
• at 690 V Rated value	2.5 kW
<b>Active power loss at AC-3 at 400 V for rated value of the operating current per conductor</b>	0.7 W
<b>Operating frequency</b>	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
• at AC-4 maximum	250 1/h
<b>No-load switching frequency</b>	
• for DC	10 000 1/h
<b>Control circuit/ Control:</b>	
<b>Type of voltage of the control supply voltage</b>	DC
<b>Control supply voltage for DC</b>	
• Rated value	24 V
<b>Operating range factor control supply voltage rated value of the magnet coil for DC</b>	0.8 ... 1.1
<b>Closing power of the magnet coil for DC</b>	4 W
<b>Holding power of the magnet coil for DC</b>	4 W
<b>Closing delay</b>	

<ul style="list-style-type: none"> <li>• for DC</li> </ul>	30 ... 100 ms
<b>Opening delay</b>	
<ul style="list-style-type: none"> <li>• for DC</li> </ul>	7 ... 13 ms
<b>Arcing time</b>	10 ... 15 ms
<b>Residual current of the electronics for control with signal &lt;0&gt;</b>	
<ul style="list-style-type: none"> <li>• with AC at 230 V maximum permissible</li> </ul>	3 mA
<ul style="list-style-type: none"> <li>• for DC at 24 V maximum permissible</li> </ul>	10 mA

#### Auxiliary circuit:

<b>Number of NC contacts</b>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> <li>— instantaneous contact</li> </ul>	0
<b>Number of NO contacts</b>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> <li>— instantaneous contact</li> </ul>	1
<b>Product expansion Auxiliary switch</b>	Yes
Operating current at AC-12 maximum	10 A
<b>Operating current at AC-15</b>	
<ul style="list-style-type: none"> <li>• at 230 V Rated value</li> </ul>	10 A
<ul style="list-style-type: none"> <li>• at 400 V Rated value</li> </ul>	3 A
<ul style="list-style-type: none"> <li>• at 690 V Rated value</li> </ul>	1 A
<b>Operating current at DC-12</b>	
<ul style="list-style-type: none"> <li>• at 60 V Rated value</li> </ul>	6 A
<ul style="list-style-type: none"> <li>• at 110 V Rated value</li> </ul>	3 A
<ul style="list-style-type: none"> <li>• at 125 V Rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>• at 220 V Rated value</li> </ul>	1 A
<ul style="list-style-type: none"> <li>• at 600 V Rated value</li> </ul>	0.15 A
<b>Operating current at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V Rated value</li> </ul>	10 A
<ul style="list-style-type: none"> <li>• at 60 V Rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>• at 110 V Rated value</li> </ul>	1 A
<ul style="list-style-type: none"> <li>• at 125 V Rated value</li> </ul>	0.9 A
<ul style="list-style-type: none"> <li>• at 220 V Rated value</li> </ul>	0.3 A
<ul style="list-style-type: none"> <li>• at 600 V Rated value</li> </ul>	0.1 A
<b>Contact reliability of the 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>	
<ul style="list-style-type: none"> <li>• at 480 V Rated value</li> </ul>	7.6 A
<ul style="list-style-type: none"> <li>• at 600 V Rated value</li> </ul>	9 A
<b>yielded mechanical performance [hp]</b>	
<ul style="list-style-type: none"> <li>• for single-phase AC motor</li> </ul>	

— at 110/120 V Rated value	0.33 hp
— at 230 V Rated value	1 hp
• for three-phase AC motor	
— at 200/208 V Rated value	2 hp
— at 220/230 V Rated value	3 hp
— at 460/480 V Rated value	5 hp
— at 575/600 V Rated value	7.5 hp
<b>Contact rating of the auxiliary contacts acc. to UL</b>	A600 / Q600

### Short-circuit:

<b>Design of the fuse link</b>	
• for short-circuit protection of the main circuit	
— with type of assignment 1 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A
— with type of assignment 2 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 20 A
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A

### 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>Mounting type</b>	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
• Side-by-side mounting	Yes
<b>Height</b>	57.5 mm
<b>Width</b>	45 mm
<b>Depth</b>	73 mm
<b>Required spacing</b>	
• with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— at the side	6 mm
— downwards	0 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm

— upwards	0 mm
— downwards	0 mm
— at the side	6 mm

#### 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 current circuit</li> </ul>	<p>screw-type terminals</p> <p>screw-type terminals</p>
<b>Type of connectable conductor cross-section</b>	
<ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG conductors for main contacts</li> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG conductors for auxiliary contacts</li> </ul>	<p>2x (0,5 ... 1,5 mm<sup>2</sup>), 2x (0,75 ... 2,5 mm<sup>2</sup>), 2x 4 mm<sup>2</sup></p> <p>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</p> <p>2x (20 ... 16), 2x (18 ... 14), 2x 12</p> <p>2x (0,5 ... 1,5 mm<sup>2</sup>), 2x (0,75 ... 2,5 mm<sup>2</sup>), 2x 4 mm<sup>2</sup></p> <p>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</p> <p>2x (20 ... 16), 2x (18 ... 14), 2x 12</p>

#### Safety related data:

<b>B10 value with high demand rate acc. to SN 31920</b>	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>	<p>40 %</p> <p>73 %</p>
<b>Product function</b>	
<ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes; with 3RH29
<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

#### Mechanical data:

<b>Size of contactor</b>	S00
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#### Ambient conditions:

<b>Installation altitude at height above sea level maximum</b>	2 000 m
<b>Ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> </ul>	<p>-25 ... +60 °C</p> <p>-55 ... +80 °C</p>

#### Certificates/ approvals:

General Product Approval	Functional Safety/Safety of Machinery	Declaration of Conformity
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[Type Examination](#)



Test Certificates	Shipping Approval
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[other](#)



Shipping Approval	other
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[Environmental Confirmations](#)

other
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[Confirmation](#)



### Further information

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

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

**Industry Mall (Online ordering system)**

<http://www.siemens.com/industrymall>

**Cax online generator**

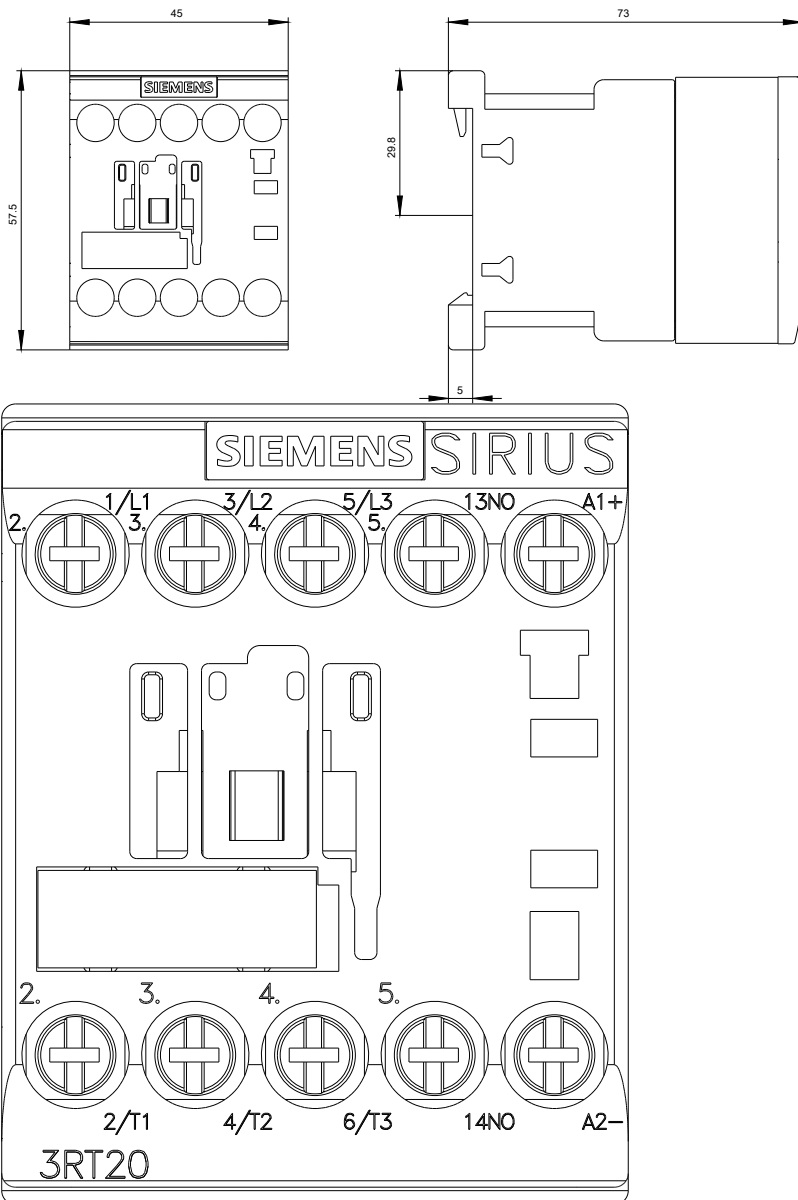
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RT20161BB41>

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

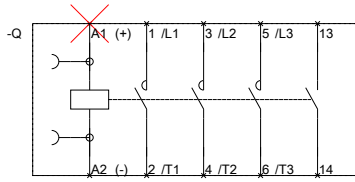
<https://support.industry.siemens.com/cs/ww/en/ps/3RT20161BB41>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mfb=3RT20161BB41&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RT20161BB41&lang=en)







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