

CONTACTOR,AC3:37KW/400V, 1NO+1NC, 20-33V AC/DC, WITH VARISTOR, 3-POLE, SIZE S2, SCREW TERMINAL



Figure similar

product brand name	SIRIUS
Product designation	3RT2 contactor

General technical data:

Size of contactor	S2
Product expansion	
• function module for communication	No
• Auxiliary switch	Yes
Insulation voltage	
• rated value	690 V
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• between coil and main contacts acc. to EN 60947-1	400 V
Protection class IP	
• on the front	IP20
• of the terminal	IP00
Degree of pollution	3
Shock resistance	
• at rectangular impulse	

— at AC	7.7g / 5 ms, 4.5g / 10 ms
— at DC	7.7g / 5 ms, 4.5g / 10 ms
• with sine pulse	
— at AC	12g / 5 ms, 7g / 10 ms
— at DC	12g / 5 ms, 7g / 10 ms
<b>Mechanical service life (switching cycles)</b>	
• of contactor typical	10 000 000
• 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
<b>Ambient conditions:</b>	
<b>Installation altitude at height above sea level maximum</b>	2 000 m
<b>Ambient temperature</b>	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
<b>Main circuit:</b>	
<b>Number of NO contacts for main contacts</b>	3
<b>Number of NC contacts for main contacts</b>	0
<b>Operating voltage</b>	
• at AC-3 rated value maximum	690 V
<b>Operating current</b>	
• at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	90 A
• at AC-1 up to 690 V	
— at ambient temperature 40 °C rated value	90 A
— at ambient temperature 60 °C rated value	80 A
• at AC-2 at 400 V rated value	80 A
• at AC-3	
— at 400 V rated value	80 A
— at 500 V rated value	80 A
— at 690 V rated value	58 A
<b>Connectable conductor cross-section in main circuit at AC-1</b>	
• at 60 °C minimum permissible	25 mm <sup>2</sup>
• at 40 °C minimum permissible	35 mm <sup>2</sup>
<b>Operating current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	30 A
• at 690 V rated value	24 A
<b>Operating 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> <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> <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>	<p>55 A</p> <p>4.5 A</p> <p>1 A</p> <p>0.4 A</p> <p>0.25 A</p> <p>55 A</p> <p>45 A</p> <p>5 A</p> <p>1 A</p> <p>0.8 A</p> <p>55 A</p> <p>55 A</p> <p>45 A</p> <p>2.9 A</p> <p>1.4 A</p>
<b>Operating 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 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 24 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 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 24 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>	<p>35 A</p> <p>2.5 A</p> <p>1 A</p> <p>0.1 A</p> <p>0.06 A</p> <p>25 A</p> <p>5 A</p> <p>55 A</p> <p>0.27 A</p> <p>0.16 A</p> <p>55 A</p> <p>25 A</p> <p>55 A</p> <p>0.6 A</p> <p>0.35 A</p>
<b>Operating power</b>	
<ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 230 V at 60 °C rated value</li> </ul> </li> </ul>	<p>34 kW</p> <p>28 kW</p>

— at 400 V rated value	59 kW
— at 400 V at 60 °C rated value	49 kW
— at 690 V rated value	102 kW
— at 690 V at 60 °C rated value	85 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	37 kW
— at 690 V rated value	45 kW
<b>Operating power for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	15.8 kW
• at 690 V rated value	21.8 kW
<b>Thermal short-time current limited to 10 s</b>	640 A
<b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b>	5.7 W
<b>No-load switching frequency</b>	
• at AC	1 500 1/h
• at DC	1 500 1/h
<b>Operating frequency</b>	
• at AC-1 maximum	700 1/h
• at AC-2 maximum	350 1/h
• at AC-3 maximum	500 1/h
• at AC-4 maximum	150 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>	
• at 50 Hz rated value	20 ... 33 V
• at 60 Hz rated value	20 ... 33 V
<b>Control supply voltage at DC</b>	
• rated value	20 ... 33 V
<b>Operating range factor control supply voltage rated value of magnet coil at AC</b>	
• at 50 Hz	0.8 ... 1.1
• at 60 Hz	0.8 ... 1.1
<b>Operating range factor control supply voltage rated value of magnet coil at DC</b>	0.8 ... 1.1
<b>Design of the surge suppressor</b>	with varistor
<b>Apparent pick-up power of magnet coil at AC</b>	
• at 50 Hz	40 V·A
• at 60 Hz	40 V·A

<b>Apparent holding power of magnet coil at AC</b>	
• at 50 Hz	2 V·A
• at 60 Hz	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	45 ... 70 ms
• at DC	45 ... 60 ms
<b>Opening delay</b>	
• at AC	35 ... 55 ms
• at DC	35 ... 55 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	1
<b>Number of NO contacts</b>	
• for auxiliary contacts	
— instantaneous contact	1
<b>Operating current at AC-12 maximum</b>	10 A
<b>Operating current at AC-15</b>	
• at 230 V rated value	10 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	10 A
• at 48 V rated value	2 A
• at 60 V rated value	2 A
• at 110 V rated value	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 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>	65 A
<ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>	62 A
<ul style="list-style-type: none"> <li>• yielded mechanical performance [hp] 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>• Yielded mechanical performance [hp] 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>	5 hp 15 hp 20 hp 25 hp 50 hp 60 hp
<b>Contact rating of auxiliary contacts according to UL</b>	A600 / P600

### 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 assignment 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>	gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 250 A gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 160 A 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
<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>	130 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>— Backwards</li> <li>— upwards</li> <li>— downwards</li> </ul> </li> </ul>	0 mm 0 mm 0 mm 0 mm

— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— at the side	6 mm
— downwards	50 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	6 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	
— single or multi-stranded	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )
• at AWG conductors for main contacts	2x (18 ... 2), 1x (18 ... 1)
<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>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

#### Certificates/approvals



[sonstig](#)



## Test Certificates

## other

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[spezielle Prüfbescheinigung](#)

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[Bestätigungen](#)

[Umweltbestätigung](#)

## 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=3RT20381NB30>

## Cax online generator

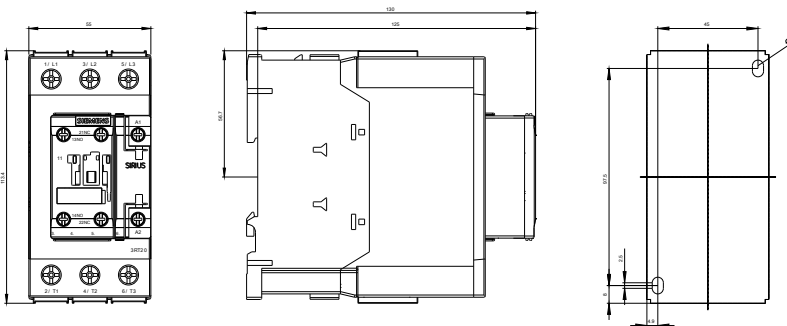
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT20381NB30>

## Service&amp;Support (Manuals, Certificates, Characteristics, FAQs,...)

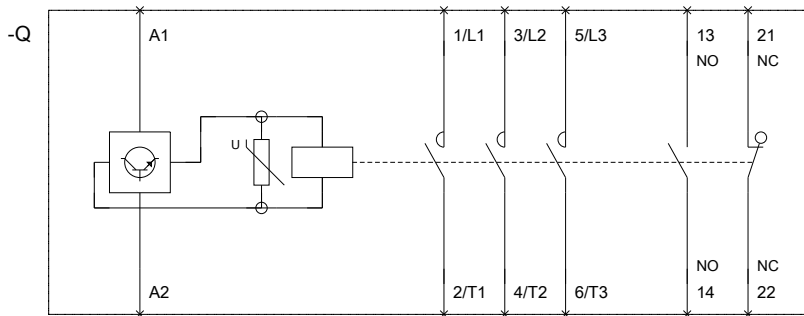
<https://support.industry.siemens.com/cs/ww/en/ps/3RT20381NB30>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT20381NB30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT20381NB30&lang=en)







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