



CONTACTOR, AC-3, 18.5KW/400V, 1NO+1NC, DC 220V, 3-POLE, SZ S0 SCREW TERMINAL

product brand name	SIRIUS
Product designation	3RT2 contactor

General technical data:

<b>Insulation voltage</b>		
<ul style="list-style-type: none"> <li>Rated value</li> </ul>	V	690
<b>Degree of pollution</b>		3
<b>Surge voltage resistance Rated value</b>	kV	6
<b>Mechanical service life (switching cycles)</b>		
<ul style="list-style-type: none"> <li>of the contactor typical</li> </ul>		10 000 000
<ul style="list-style-type: none"> <li>of the contactor with added electronics-compatible auxiliary switch block typical</li> </ul>		5 000 000
<ul style="list-style-type: none"> <li>of the contactor with added auxiliary switch block typical</li> </ul>		10 000 000
<b>Thermal short-time current restricted to 10 s</b>	A	304
<b>Protection class IP</b>		
<ul style="list-style-type: none"> <li>on the front</li> </ul>		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

Main circuit:

<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>		

• at AC-3 Rated value maximum	V	690
<b>Operating current</b>		
• at AC-1		
— at 400 V at ambient temperature 40 °C Rated value	A	50
— up to 690 V at ambient temperature 40 °C Rated value	A	50
— up to 690 V at ambient temperature 60 °C Rated value	A	42
• at AC-2 at 400 V Rated value	A	38
• at AC-3		
— at 400 V Rated value	A	38
— at 500 V Rated value	A	32
— at 690 V Rated value	A	21
• at AC-4 at 400 V Rated value	A	22
<b>Operating current with 1 current path</b>		
• at DC-1		
— at 24 V Rated value	A	35
— at 110 V Rated value	A	4.5
— at 220 V Rated value	A	1
— at 440 V Rated value	A	0.4
— at 600 V Rated value	A	0.25
• at DC-3 at DC-5		
— at 24 V Rated value	A	20
— at 110 V Rated value	A	2.5
— at 220 V Rated value	A	1
— at 440 V Rated value	A	0.09
— at 600 V Rated value	A	0.06
<b>Operating current with 2 current paths in series</b>		
• at DC-1		
— at 24 V Rated value	A	35
— at 110 V Rated value	A	35
— at 220 V Rated value	A	5
— at 440 V Rated value	A	1
— at 600 V Rated value	A	0.8
• at DC-3 at DC-5		
— at 110 V Rated value	A	15
— at 220 V Rated value	A	3
— at 24 V Rated value	A	35
— at 440 V Rated value	A	0.27
— at 600 V Rated value	A	0.16
<b>Operating current with 3 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 <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>	A	35
	A	35
	A	35
	A	2.9
	A	1.4
	A	35
	A	10
	A	35
	A	0.6
	A	0.6
<b>Operating power</b>		
<ul style="list-style-type: none"> <li>• at AC-1 at 400 V Rated value</li> <li>• at AC-2 at 400 V Rated value</li> <li>• at AC-4 at 400 V Rated value</li> </ul>	kW	28
	kW	18.5
	kW	11
<b>Operating power</b>		
<ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— at 230 V at 60 °C Rated value</li> <li>— at 230 V Rated value</li> <li>— at 400 V at 60 °C Rated value</li> <li>— at 690 V at 60 °C Rated value</li> <li>— at 690 V Rated value</li> </ul> </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 690 V Rated value</li> </ul> </li> </ul>	kW	15.5
	kW	16
	kW	27.5
	kW	47.5
	kW	48
	kW	11
	kW	18.5
	kW	18.5
<b>Operating power for <math>\geq 200000</math> 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>	kW	6
	kW	10.3
<b>Operating frequency</b>		
<ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>	1/h	750

#### Control circuit/ Control:

<b>Type of voltage of the control supply voltage</b>		DC
<b>Control supply voltage for DC</b>		
<ul style="list-style-type: none"> <li>• Rated value</li> </ul>	V	220
<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>	W	5.9
<b>Holding power of the magnet coil for DC</b>	W	5.9

**Auxiliary circuit:**

<b>Number of NC contacts</b>		
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> <li>— instantaneous contact</li> </ul>		1
<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
<b>Operating current at AC-15</b>		
<ul style="list-style-type: none"> <li>• at 230 V Rated value</li> <li>• at 400 V Rated value</li> <li>• at 690 V Rated value</li> </ul>	A A A	10 3 1
<b>Operating current</b>		
<ul style="list-style-type: none"> <li>• at DC-12 at 125 V Rated value</li> <li>• at DC-12 at 220 V Rated value</li> <li>• at DC-12 at 600 V Rated value</li> <li>• at DC-13 at 125 V Rated value</li> <li>• at DC-13 at 220 V Rated value</li> <li>• at DC-13 at 600 V Rated value</li> </ul>	A A A A A A	2 1 0.15 0.9 0.3 0.1
<b>Operating current</b>		
<ul style="list-style-type: none"> <li>• at DC-12</li> <li>— at 60 V Rated value</li> <li>— at 110 V Rated value</li> <li>• at DC-13</li> <li>— at 24 V Rated value</li> <li>— at 60 V Rated value</li> <li>— at 110 V Rated value</li> </ul>	A A A A A A	6 3 10 2 1
<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> <li>• at 600 V Rated value</li> </ul>	A A	34 27
<b>yielded mechanical performance [hp]</b>		
<ul style="list-style-type: none"> <li>• for single-phase AC motor at 110/120 V Rated value</li> <li>• for single-phase AC motor at 230 V Rated value</li> <li>• for three-phase AC motor at 200/208 V Rated value</li> <li>• for three-phase AC motor at 220/230 V Rated value</li> </ul>	metric hp metric hp metric hp metric hp	3 5 10 10

<ul style="list-style-type: none"> <li>• for three-phase AC motor at 460/480 V Rated value</li> </ul>	metric hp	25
<ul style="list-style-type: none"> <li>• for three-phase AC motor at 575/600 V Rated value</li> </ul>	metric hp	25
<b>Contact rating of the auxiliary contacts acc. to UL</b>		A600 / Q600

**Short-circuit:**

<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 LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 100 A  gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 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>	mm	85
<b>Width</b>	mm	45
<b>Depth</b>	mm	107
<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> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> </ul> </li> </ul>	mm	0 0 0 0 0  0 0 0 6 0  0 0 0 0

— at the side

mm 6

### 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-section</b>		
• for main contacts		2x (1 ... 2,5 mm <sup>2</sup> ), 2x (2,5 ... 10 mm <sup>2</sup> )
— single or multi-stranded		2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
— finely stranded with core end processing		2x (16 ... 12), 2x (14 ... 8)
• for AWG conductors for main contacts		
• for auxiliary contacts		2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )
— 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 (20 ... 16), 2x (18 ... 14)
• for AWG conductors for auxiliary contacts		

### Safety related data:

<b>B10 value with high demand rate acc. to SN 31920</b>		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>Failure rate [FIT] with low demand rate acc. to SN 31920</b>	FIT	100
<b>Product function Mirror contact acc. to IEC 60947-4-1</b>		Yes
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	y	20
<b>Protection against electrical shock</b>		finger-safe

### Mechanical data:

<b>Size of contactor</b>		S0
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### Ambient conditions:

<b>Installation altitude at height above sea level maximum</b>	m	2 000
<b>Ambient temperature</b>		
• during operation	°C	-25 ... +60
• during storage	°C	-55 ... +80

### Certificates/ approvals:

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

Declaration of Conformity	Test Certificates	Shipping Approval
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



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**

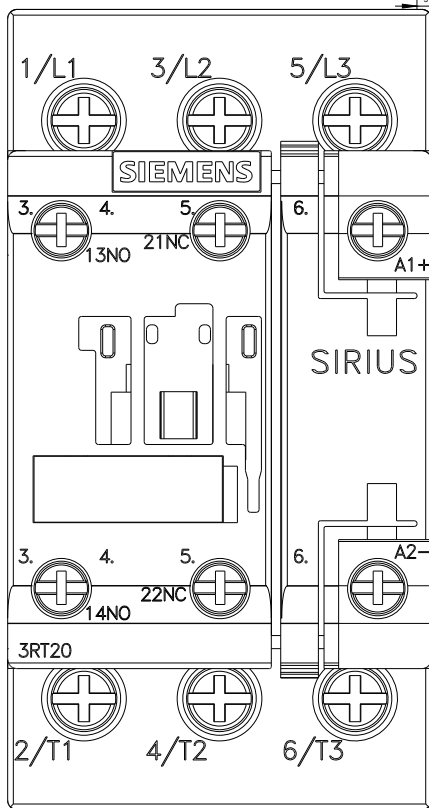
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT20281BM40>

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

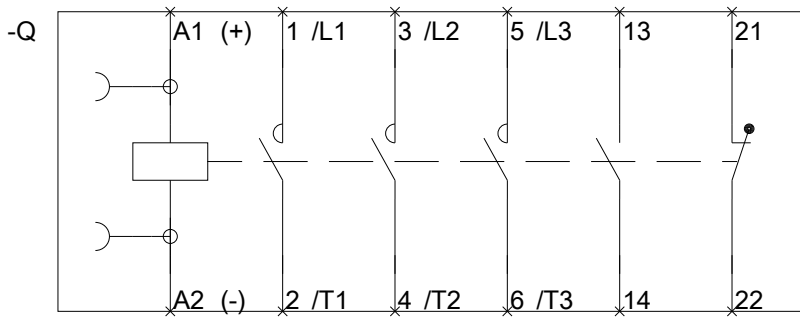
<http://support.automation.siemens.com/WW/view/en/3RT20281BM40/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT20281BM40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT20281BM40&lang=en)







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