

CONTACTOR, AC-3, 4KW/400V, 1NO, AC 24V, 50/60 HZ, 3-POLE, SZ S00 SCREW TERMINAL VERTICAL MOUNTING POSITION

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>		30 000 000
<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	72
<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>		
<ul style="list-style-type: none"> <li>at AC-3 Rated value maximum</li> </ul>	V	690
<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> </ul> </li> </ul>	A	22
<ul style="list-style-type: none"> <li>up to 690 V at ambient temperature 40 °C Rated value</li> </ul>	A	22
<ul style="list-style-type: none"> <li>up to 690 V at ambient temperature 60 °C Rated value</li> </ul>	A	20
<ul style="list-style-type: none"> <li>at AC-2 at 400 V Rated value</li> </ul>	A	9

<ul style="list-style-type: none"> <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>	A	9
	A	7.7
	A	6.7
	A	8.5
<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>	A	20
	A	2.1
	A	0.8
	A	0.6
	A	0.6
	A	20
	A	0.1
<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 <ul style="list-style-type: none"> <li>— at 110 V Rated value</li> <li>— at 24 V Rated value</li> </ul> </li> </ul>	A	20
	A	12
	A	1.6
	A	0.8
	A	0.7
	A	0.35
	A	20
<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	20
	A	20
	A	20
	A	1.3
	A	1
	A	20
	A	1.5
	A	20
	A	0.2
	A	0.2
<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> </ul>	kW	13
	kW	4

<ul style="list-style-type: none"> <li>• at AC-4 at 400 V Rated value</li> </ul>	kW	4
<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	7.5
	kW	7.5
	kW	13
	kW	22
	kW	22
	kW	2.2
	kW	4
	kW	5.5
<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	2
	kW	2.5
<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>		AC
<b>Control supply voltage with AC</b>		
<ul style="list-style-type: none"> <li>• at 50 Hz Rated value</li> <li>• at 60 Hz Rated value</li> </ul>	V	24
	V	24
<b>Operating range factor control supply voltage rated value of the magnet coil with AC</b>		
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>		0.8 ... 1.1
		0.85 ... 1.1

#### Auxiliary circuit:

<b>Number of NC contacts</b>		
<ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— instantaneous contact</li> </ul> </li> </ul>		0
<b>Number of NO contacts</b>		
<ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— instantaneous contact</li> </ul> </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	10
	A	3
	A	1
<b>Operating current</b>		
<ul style="list-style-type: none"> <li>• at DC-12 at 125 V Rated value</li> </ul>	A	2

• at DC-12 at 220 V Rated value	A	1
• at DC-12 at 600 V Rated value	A	0.15
• at DC-13 at 125 V Rated value	A	0.9
• at DC-13 at 220 V Rated value	A	0.3
• at DC-13 at 600 V Rated value	A	0.1
<b>Operating current</b>		
• at DC-12		
— at 60 V Rated value	A	6
— at 110 V Rated value	A	3
• at DC-13		
— at 24 V Rated value	A	10
— at 60 V Rated value	A	2
— at 110 V Rated value	A	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>		
• at 480 V Rated value	A	7.6
• at 600 V Rated value	A	9
<b>yielded mechanical performance [hp]</b>		
• for single-phase AC motor at 110/120 V Rated value	metric hp	0.33
• for single-phase AC motor at 230 V Rated value	metric hp	1
• for three-phase AC motor at 200/208 V Rated value	metric hp	2
• for three-phase AC motor at 220/230 V Rated value	metric hp	3
• for three-phase AC motor at 460/480 V Rated value	metric hp	5
• for three-phase AC motor at 575/600 V Rated value	metric hp	7.5
<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>		standing, on horizontal 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	57.5
<b>Width</b>	mm	45
<b>Depth</b>	mm	73
<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> <li>— at the side</li> </ul> </li> </ul>	mm	0 0 0 0 0  0 0 0 6 0  0 0 0 0 6

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>		screw-type terminals screw-type terminals
<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>		2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 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), 2x 12  2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 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), 2x 12
<b>Apparent pick-up power of the magnet coil with AC</b>		
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	V·A	27

- at 60 Hz

V·A	31.7
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#### 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 with 3RH29
• Note		
<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>		S00
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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	Declaration of Conformity	Test Certificates	other
 CCC	 CSA	 EAC	 EG-Konf.
		<a href="#">Special Test Certificate</a>	<a href="#">Environmental Confirmations</a>

#### 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=3RT20161AB011AA0>

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

<http://support.automation.siemens.com/WW/view/en/3RT20161AB011AA0/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=3RT20161AB011AA0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT20161AB011AA0&lang=en)

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