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Data sheet 3RT2017-1AF01



CONTACTOR, AC-3, 5.5KW/400V, 1NO, AC110V, 50/60 HZ, 3-POLE, SZ S00 SCREW TERMINAL

product brand name		SIRIUS
Product designation		3RT2 contactor

General technical data:		
Product expansion function module for communication		No
Insulation voltage		
• Rated value	V	690
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	V	400
Degree of pollution		3
Shock resistance		
• **at rectangular impulse**		
— **with AC**		7,3g / 5 ms, 4,7g / 10 ms
• **with sine pulse**		
— **with AC**		11,4g / 5 ms, 7,3g / 10 ms
Surge voltage resistance Rated value	kV	6
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	A	90
Protection class IP		
• on the front		IP20

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• of the terminal		IP20
Equipment marking		
• acc. to DIN EN 61346-2		Q
• acc. to DIN EN 81346-2		Q
Main circuit:		
Number of poles for main current circuit		3
Number of NC contacts for main contacts		0
Number of NO contacts for main contacts		3
Operating voltage		
• at AC-3 Rated value maximum	V	690
Operating current		
• at AC-1		
— at 400 V at ambient temperature 40 °C Rated value	A	22
— up to 690 V at ambient temperature 40 °C Rated value	A	22
— up to 690 V at ambient temperature 60 °C Rated value	A	20
• at AC-2 at 400 V Rated value	A	12
• at AC-3		
— at 400 V Rated value	A	12
— at 500 V Rated value	A	9.2
— at 690 V Rated value	A	6.7
• at AC-4 at 400 V Rated value	A	8.5
Operating current with 1 current path		
• at DC-1		
— at 24 V Rated value	A	20
— at 110 V Rated value	A	2.1
— at 220 V Rated value	A	0.8
— at 440 V Rated value	A	0.6
— at 600 V Rated value	A	0.6
• at DC-3 at DC-5		
— at 24 V Rated value	A	20
— at 110 V Rated value	A	0.1
Operating current with 2 current paths in series		
• at DC-1		
— at 24 V Rated value	A	20
— at 110 V Rated value	A	12
— at 220 V Rated value	A	1.6
— at 440 V Rated value	A	0.8
— at 600 V Rated value	A	0.7
• at DC-3 at DC-5		

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— at 110 V Rated value	A	0.35
— at 24 V Rated value	A	20
Operating current with 3 current paths in series		
• at DC-1		
— at 24 V Rated value	A	20
— at 110 V Rated value	A	20
— at 220 V Rated value	A	20
— at 440 V Rated value	A	1.3
— at 600 V Rated value	A	1
• at DC-3 at DC-5		
— at 110 V Rated value	A	20
— at 220 V Rated value	A	1.5
— at 24 V Rated value	A	20
— at 440 V Rated value	A	0.2
— at 600 V Rated value	A	0.2
Operating power		
• at AC-1		
— at 230 V at 60 °C Rated value	kW	7.5
— at 400 V at 60 °C Rated value	kW	13
— at 690 V at 60 °C Rated value	kW	22
Operating power for ≥ 200000 operating cycles at AC-4		
• at 400 V Rated value	kW	2
• at 690 V Rated value	kW	2.5
Active power loss at AC-3 at 400 V for rated value of the operating current per conductor	W	1.2
Operating frequency		
• at AC-1 maximum	1/h	1 000
• at AC-2 maximum	1/h	750
• at AC-3 maximum	1/h	750
• at AC-4 maximum	1/h	250
No-load switching frequency		
• with AC	1/h	10 000

Control circuit/ Control:		
Type of voltage of the control supply voltage		AC
Control supply voltage with AC		
• at 50 Hz Rated value	V	110
• at 60 Hz Rated value	V	110
Operating range factor control supply voltage rated value of the magnet coil with AC		
• at 50 Hz		0.8 ... 1.1
• at 60 Hz		0.85 ... 1.1

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Apparent pick-up power of the magnet coil with AC		
• at 50 Hz	V·A	37
• at 60 Hz	V·A	43
Inductive power factor with closing power of the coil		
• at 50 Hz		0.8
• at 60 Hz		0.8
Apparent holding power of the magnet coil with AC		
• at 50 Hz	V·A	5.7
• at 60 Hz	V·A	6.5
Inductive power factor with the holding power of the coil		
• at 50 Hz		0.25
• at 60 Hz		0.25
Closing delay		
• with AC	ms	8 ... 33
Opening delay		
• with AC	ms	4 ... 15
Arcing time	ms	10 ... 15
Residual current of the electronics for control with signal <0>		
• with AC at 230 V maximum permissible	mA	4
• for DC at 24 V maximum permissible	mA	10

Auxiliary circuit:		
Number of NC contacts		
• for auxiliary contacts		
— instantaneous contact		0
Number of NO contacts		
• for auxiliary contacts		
— instantaneous contact		1
Product expansion Auxiliary switch		Yes
Operating current at AC-12 maximum	A	10
Operating current at AC-15		
• at 230 V Rated value	A	10
• at 400 V Rated value	A	3
• at 690 V Rated value	A	1
Operating current at DC-12		
• at 60 V Rated value	A	6
• at 110 V Rated value	A	3
• at 125 V Rated value	A	2
• at 220 V Rated value	A	1
• at 600 V Rated value	A	0.15
Operating current at DC-13		

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• at 24 V Rated value	A	10
• at 60 V Rated value	A	2
• at 110 V Rated value	A	1
• at 125 V Rated value	A	0.9
• at 220 V Rated value	A	0.3
• at 600 V Rated value	A	0.1
Contact reliability of the auxiliary contacts		1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings:		
Full-load current (FLA) for three-phase AC motor		
• at 480 V Rated value	A	11
• at 600 V Rated value	A	11
yielded mechanical performance [hp]		
• for single-phase AC motor		
— at 110/120 V Rated value	metric hp	0.5
— at 230 V Rated value	metric hp	2
• for three-phase AC motor		
— at 200/208 V Rated value	metric hp	3
— at 220/230 V Rated value	metric hp	3
— at 460/480 V Rated value	metric hp	7.5
— at 575/600 V Rated value	metric hp	10
Contact rating of the auxiliary contacts acc. to UL		A600 / Q600

Short-circuit:		
Design of the fuse link		
• 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:		
mounting position		+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
Mounting type		screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
• Side-by-side mounting		Yes

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Height	mm	57.5
Width	mm	45
Depth	mm	73
Required spacing		
• with side-by-side mounting		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	0
— downwards	mm	0
— at the side	mm	0
• for grounded parts		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	0
— at the side	mm	6
— downwards	mm	0
• for live parts		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	0
— downwards	mm	0
— at the side	mm	6

Connections/ Terminals:		
Type of electrical connection		
• for main current circuit		screw-type terminals
• for auxiliary and control current circuit		screw-type terminals
Type of connectable conductor cross-section		
• for main contacts		
— single or multi-stranded		2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm²
— finely stranded with core end processing		2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
• for AWG conductors for main contacts		2x (20 ... 16), 2x (18 ... 14), 2x 12
• for auxiliary contacts		
— single or multi-stranded		2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm²
— finely stranded with core end processing		2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
• for AWG conductors for auxiliary contacts		2x (20 ... 16), 2x (18 ... 14), 2x 12

Safety related data:		
B10 value with high demand rate acc. to SN 31920		1 000 000
Proportion of dangerous failures		
• with low demand rate acc. to SN 31920	%	40
• with high demand rate acc. to SN 31920	%	73
Product function		

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• Mirror contact acc. to IEC 60947-4-1		Yes; with 3RH29
T1 value for proof test interval or service life acc. to IEC 61508	y	20
Protection against electrical shock		finger-safe

Mechanical data:

Size of contactor		S00

Ambient conditions:

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

Certificates/ approvals:

General Product Approval				Functional Safety/Safety of Machinery	Declaration of Conformity
CCC	CSA	EAC	UL	Type Examination	EG-Konf.

Test Certificates	Shipping Approval				
Special Test Certificate	ABS	BUREAU VERITAS	DNV	GL	LRS

Shipping Approval			other		
PRS	RINA	RMRS	Environmental Confirmations	Confirmation	VDE

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=3RT20171AF01

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RT20171AF01

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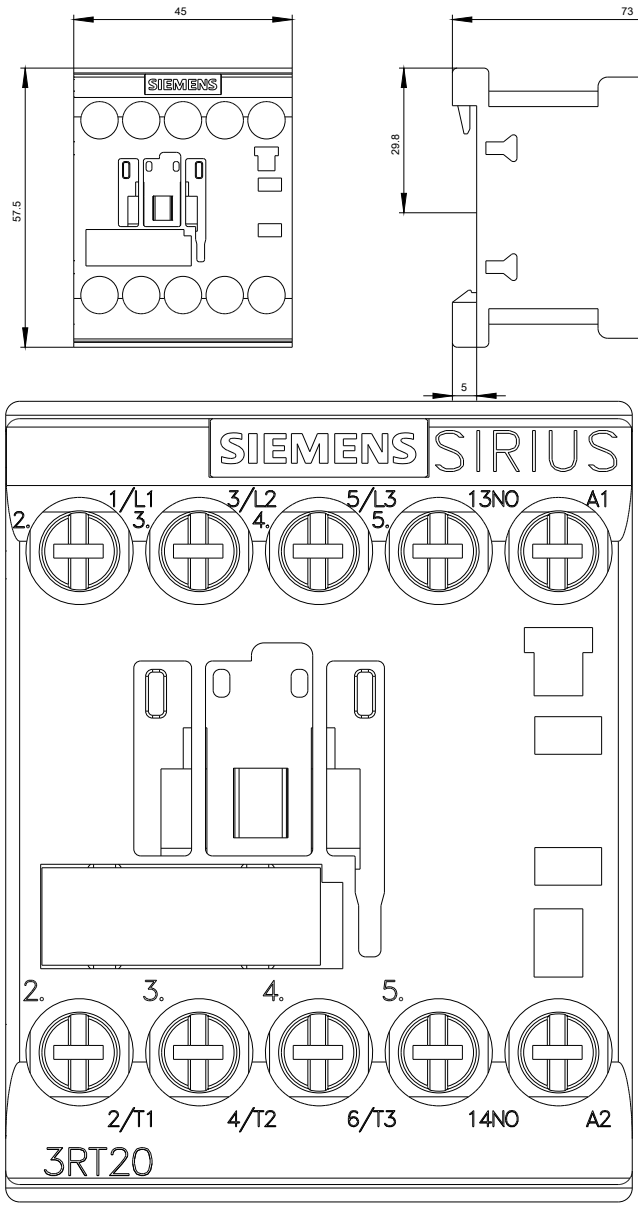

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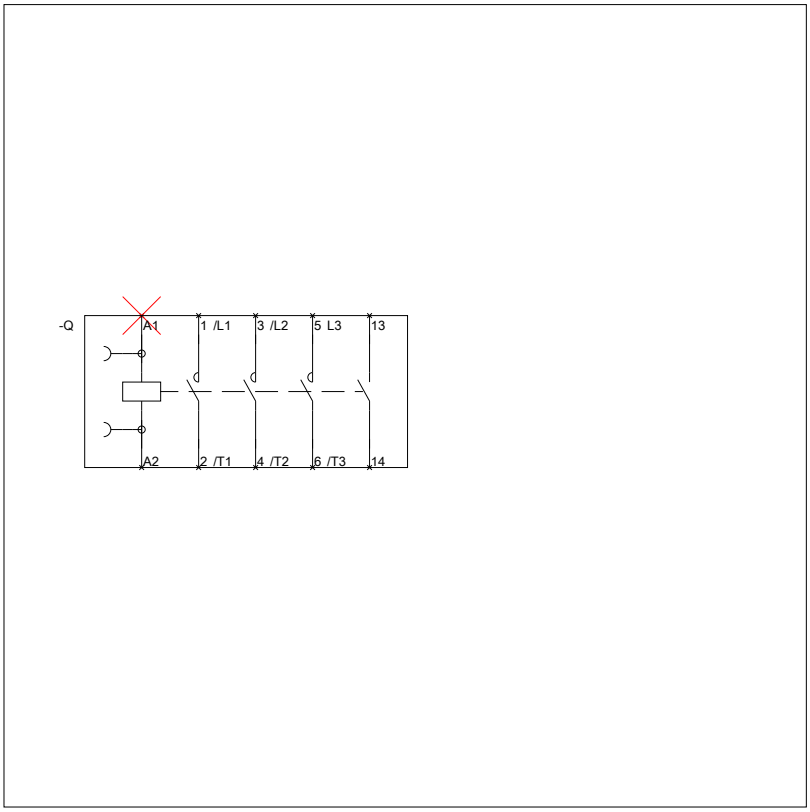

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