SIEMENS

Data sheet 3RT2016-2GG22

		CONTACTOR, AC-3, 4KW/400V, 1NC, AC 110V, 50/60 HZ, 3-POLE, SZ S00 SPRING-LOADED TERMINAL .
product brand name		SIRIUS
Product designation		3RT2 contactor
General technical data:		
Insulation voltage		
• Rated value	V	690
Degree of pollution		3
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	72
Protection class IP		
• on the front		IP20
• 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	9
• at AC-3		

— at 400 V Rated value	A	9
— at 500 V Rated value	A	7.7
— 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		
— 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 400 V Rated value	kW	13
• at AC-2 at 400 V Rated value	kW	4
• at AC-4 at 400 V Rated value	kW	4

Operating power		
• at AC-1		
— at 230 V at 60 °C Rated value	kW	7.5
— at 230 V 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
— at 690 V Rated value	kW	22
• at AC-3		
— at 230 V Rated value	kW	2.2
— at 400 V Rated value	kW	4
— at 690 V Rated value	kW	5.5
Operating power for ≥ 200000 operating cycles at AC-4		
• at 400 V Rated value	kW	2
• at 690 V Rated value	kW	2.5
Operating frequency		
• at AC-3 maximum	1/h	750
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
Design of the surge suppressor		with full-wave rectification
Auxiliary circuit:		
Number of NC contacts		
• for auxiliary contacts		
— instantaneous contact		1
Number of NO contacts		
• for auxiliary contacts		
— instantaneous contact		0
Product expansion Auxiliary switch		Yes
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 125 V Rated value	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
Operating current		
• 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
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	7.6
• at 600 V Rated value	A	9
yielded mechanical performance [hp]		
• 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
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
Height	mm	69.5
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		spring-loaded terminals
• for auxiliary and control current circuit		spring-loaded terminals
Type of connectable conductor cross-section		
• for main contacts		
— single or multi-stranded		2x (0,5 ... 4 mm²)
— finely stranded with core end processing		2x (0.5 ... 2.5 mm²)
— finely stranded without core end processing		2x (0.5 ... 2.5 mm²)
• for AWG conductors for main contacts		2x (20 ... 12)
• for auxiliary contacts		
— single or multi-stranded		2x (0,5 ... 4 mm²)
— finely stranded with core end processing		2x (0.5 ... 2.5 mm²)

— finely stranded without core end processing		2x (0.5 ... 2.5 mm²)
• for AWG conductors for auxiliary contacts		2x (20 ... 12)
Apparent pick-up power of the magnet coil with AC		
• at 50 Hz	V·A	27
• at 60 Hz	V·A	31.7
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
Failure rate [FIT] with low demand rate acc. to SN 31920	FIT	100
Product function Mirror contact acc. to IEC 60947-4-1		Yes
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				Declaration of Conformity	Test Certificates
CCC	CSA	UL	EAC	EG-Konf.	Special Test Certificate

Shipping Approval					
ABS	BUREAU VERITAS	DNV	GL	LRS	PRS

Shipping Approval		other
RINA	RMRS	Environmental Confirmations

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=3RT20162GG22

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3RT20162GG22/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=3RT20162GG22&lang=en

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