SIEMENS

Data sheet 3RT2027-1NB30

CONTACTOR, AC-3, 15KW/400V, 1NO+1NC, AC(50-60HZ)/DC ACTUAT. AC/DC 21...28V, 3-POLE, SZ S0 SCREW 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		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
Thermal short-time current restricted to 10 s	A	260
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	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	32
• at AC-3		
— at 400 V Rated value	A	32
— at 500 V Rated value	A	32
— at 690 V Rated value	A	21
• at AC-4 at 400 V Rated value	A	22
Operating current with 1 current path		
• 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
Operating current with 2 current paths in series		
• 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
Operating current with 3 current paths in series		

• at DC-1		
— at 24 V Rated value	A	35
— at 110 V Rated value	A	35
— at 220 V Rated value	A	35
— at 440 V Rated value	A	2.9
— at 600 V Rated value	A	1.4
• at DC-3 at DC-5		
— at 110 V Rated value	A	35
— at 220 V Rated value	A	10
— at 24 V Rated value	A	35
— at 440 V Rated value	A	0.6
— at 600 V Rated value	A	0.6
Operating power		
• at AC-1 at 400 V Rated value	kW	28
• at AC-2 at 400 V Rated value	kW	15
• at AC-4 at 400 V Rated value	kW	11
Operating power		
• at AC-1		
— at 230 V at 60 °C Rated value	kW	15.5
— at 230 V Rated value	kW	16
— at 400 V at 60 °C Rated value	kW	27.5
— at 690 V at 60 °C Rated value	kW	47.5
— at 690 V Rated value	kW	48
• at AC-3		
— at 230 V Rated value	kW	7.5
— at 400 V Rated value	kW	15
— at 690 V Rated value	kW	18.5
Operating power for ≥ 200000 operating cycles at AC-4		
• at 400 V Rated value	kW	6
• at 690 V Rated value	kW	10.3
Operating frequency		
• at AC-3 maximum	1/h	750
Control circuit/ Control:		
Type of voltage of the control supply voltage		AC/DC
Control supply voltage with AC		
• at 50 Hz Rated value	V	24
• at 50 Hz Rated value	V	21 ... 28
• at 60 Hz Rated value	V	24
• at 60 Hz Rated value	V	21 ... 28
Control supply voltage for DC		

• Rated value	V	21 ... 28
Operating range factor control supply voltage rated value of the magnet coil with AC		
• at 50 Hz		0.7 ... 1.3
• at 60 Hz		0.7 ... 1.3
Operating range factor control supply voltage rated value of the magnet coil for DC		0.7 ... 1.3
Design of the surge suppressor		with varistor
Closing power of the magnet coil for DC	W	5.9
Holding power of the magnet coil for DC	W	1.4
Auxiliary circuit:		
Number of NC contacts		
• for auxiliary contacts		
— instantaneous contact		1
Number of NO contacts		
• for auxiliary contacts		
— instantaneous contact		1
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	27

• at 600 V Rated value	A	27
yielded mechanical performance [hp]		
• for single-phase AC motor at 110/120 V Rated value	metric hp	2
• for single-phase AC motor at 230 V Rated value	metric hp	5
• for three-phase AC motor at 200/208 V Rated value	metric hp	10
• for three-phase AC motor at 220/230 V Rated value	metric hp	10
• for three-phase AC motor at 460/480 V Rated value	metric hp	20
• for three-phase AC motor at 575/600 V Rated value	metric hp	25
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: 100 A
— with type of assignment 2 required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 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	85
Width	mm	45
Depth	mm	107
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 (1 ... 2,5 mm²), 2x (2,5 ... 10 mm²)
— finely stranded with core end processing		2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²
• for AWG conductors for main contacts		2x (16 ... 12), 2x (14 ... 8)
• for auxiliary contacts		
— single or multi-stranded		2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 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)
Apparent pick-up power of the magnet coil with AC		
• at 50 Hz	V·A	6.5

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		S0

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				EMC	Functional Safety/Safety of Machinery
CCC	CSA	UL	EAC	C-TICK	Type Examination

Declaration of Conformity	Test Certificates			Shipping Approval	
EG-Konf.	Special Test Certificate	Type Test Certificates/Test Report	other	ABS	BUREAU VERITAS

Shipping Approval					
DNV	GL	LRS	PRS	RINA	RMRS

other		
Environmental Confirmations	Confirmation	VDE

Further information

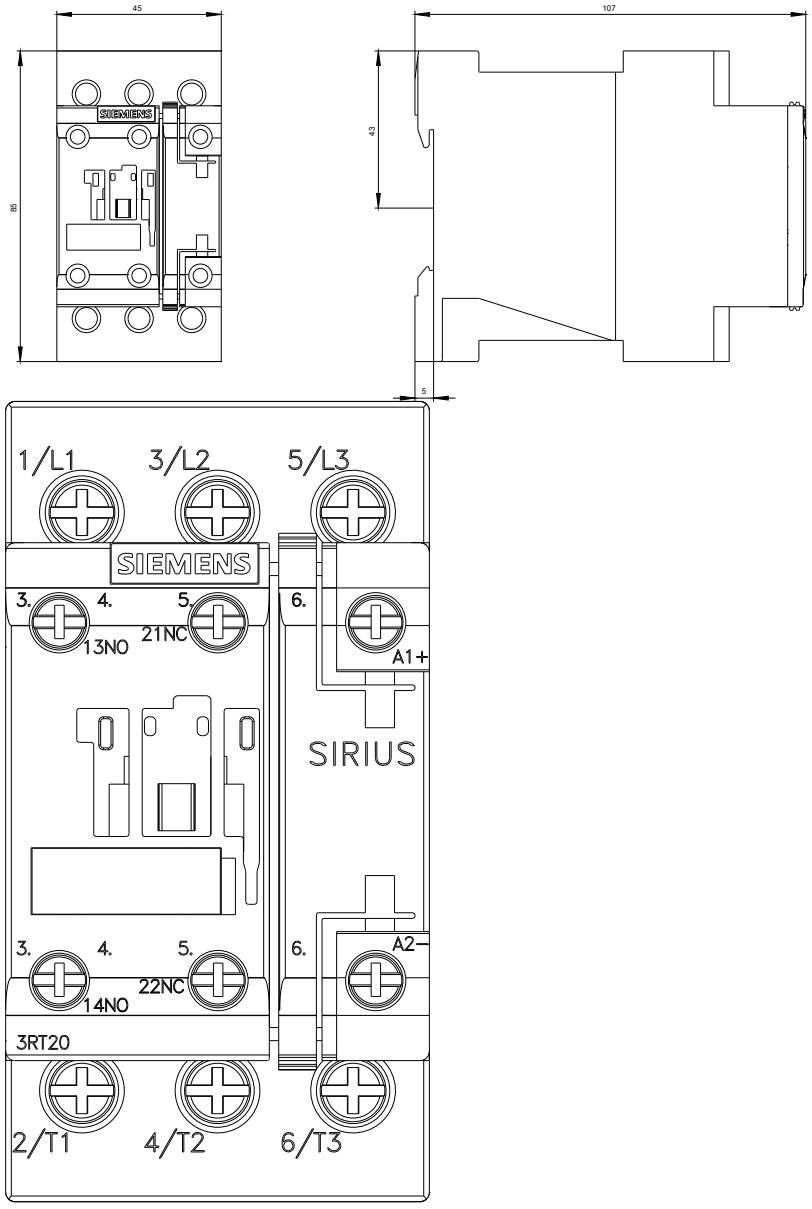
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

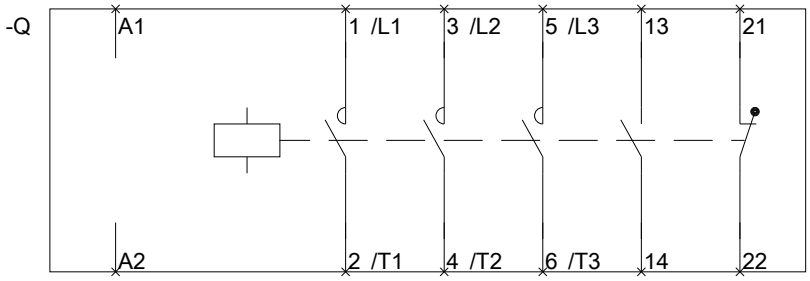
Industry Mall (Online ordering system)
http://www.siemens.com/industrymall

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT20271NB30

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3RT20271NB30/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=3RT20271NB30&lang=en





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