SIEMENS

Product data sheet 3RT2016-2BB42

CONTACTOR, AC-3, 4KW/400V, 1NC, DC 24V,
3-POLE, SZ S00 SPRING-LOADED TERMINAL

General technical data:		
Product brand name		SIRIUS
Size of the contactor		S00
Product extension / auxiliary switch		Yes
Protection class IP / on the front		IP20
Protection against electrical shock		finger-safe
Degree of pollution		3
Installation altitude / at a height over sea level / maximum	m	2,000
Ambient temperature / during storage	°C	-55 … 80
Ambient temperature / during operating	°C	-25 … 60
Shock resistance		
• at rectangular impulse		
• at DC		6,7g / 5 ms, 4,2g / 10 ms
• at sine pulse		
• at DC		10,5g / 5 ms, 6,6g / 10 ms
Impulse voltage resistance / rated value	kV	6
Insulation voltage / rated value	V	690
Mechanical operating cycles as operating time		
• of the contactor / typical		30,000,000
• of the contactor with added auxiliary switch block / typical		10,000,000

• of the contactor with added electronics-compatible auxiliary switch block / typical		5,000,000

Main circuit:		
Number of NC contacts / for main contacts		0
Number of NO contacts / for main contacts		3
Operating current		
• at AC-1 / at 400 V		
• at 40 °C ambient temperature / rated value	A	22
• at 60 °C ambient temperature / 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 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
• with 2 current paths in series / at DC-1		
• at 24 V / rated value	A	20
• at 110 V / rated value	A	12
• with 3 current paths in series / at DC-1		
• at 24 V / rated value	A	20
• at 110 V / rated value	A	20
• with 1 current path / at DC-3 / at DC-5		
• at 24 V / rated value	A	20
• at 110 V / rated value	A	0.1
• with 2 current paths in series / at DC-3 / at DC-5		
• at 24 V / rated value	A	20
• at 110 V / rated value	A	0.35
• with 3 current paths in series / at DC-3 / at DC-5		
• at 24 V / rated value	A	20
• at 110 V / rated value	A	20
Service power		
• at AC-2 / at 400 V / rated value	kW	4
• at AC-3 / at 400 V / rated value	kW	4
• at AC-4 / at 400 V / rated value	kW	4
Active power loss / per conductor / typical	W	0.7
Off-load operating frequency		
• at AC	1/h	10,000
• at DC	1/h	10,000

Frequency of operation		
• at AC-1 / according to IEC 60947-6-2 / maximum	1/h	1,000
• at AC-2 / according to IEC 60947-6-2 / maximum	1/h	750
• at AC-3 / according to IEC 60947-6-2 / maximum	1/h	750
• at AC-4 / according to IEC 60947-6-2 / maximum	1/h	250

Control circuit:

Type of voltage / of the controlled supply voltage		DC
Control supply voltage / 1		
• for DC / rated value	V	24
Working range factor supply voltage rated value / of the magnet coil		
• for DC		0.8 … 1.1
Pull-in power / of the solenoid / for DC	W	4
Holding power / of the solenoid / for DC	W	4
Closing delay		
• at DC	ms	30 … 100
Opening delay		
• at DC	ms	7 … 13
Arcing time	ms	10 … 15

Auxiliary circuit:

Contact reliability / of the auxiliary contacts		1 faulty switching per 100 million (17 V, 1 mA)
Number of NC contacts / for auxiliary contacts / instantaneous switching		1
Number of NO contacts / for auxiliary contacts / instantaneous switching		0
Operating current / of the auxiliary contacts		
• at AC-12 / maximum	A	10
• at AC-15		
• at 230 V	A	6
• at 400 V	A	3
• at DC-12		
• at 48 V	A	6
• at 60 V	A	6
• at 110 V	A	3
• at 220 V	A	1
• at DC-13		
• at 24 V	A	6
• at 48 V	A	2
• at 60 V	A	2

• at 110 V	A	1
• at 220 V	A	0.3

Short-circuit:

Design of the fuse link		
• for short-circuit protection of the auxiliary switch / required		fuse gL/gG: 10 A
• 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
• at type of coordination 2 / required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 20A

Installation/mounting/dimensions:

Built in orientation		vertical
Type of mounting		screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
Type of fixing/fixation / series installation		Yes
Width	mm	45
Height	mm	70
Depth	mm	73
Distance, to be maintained, to the ranks assembly / sidewards	mm	0
Distance, to be maintained, to earthed part / sidewards	mm	6

Connections:

Design of the electrical connection		
• for main current circuit		spring-loaded terminals
• for auxiliary and control current circuit		spring-loaded terminals
Type of the connectable conductor cross-section		
• for main contacts		
• solid		2x (0.5 ... 4 mm2)
• stranded		2x (0.5 ... 4 mm2)
• finely stranded		
• with conductor end processing		2 x (0.5 ... 2.5 mm2)
• without conductor final cutting		2x (0.5 ... 2.5 mm2)
• for AWG conductors / for main contacts		2x (20 ... 12)
• for auxiliary contacts		
• solid		2x (0.5 ... 4 mm2)
• finely stranded		
• with conductor end processing		2x (0.5 ... 2.5 mm2)
• without conductor final cutting		2x (0.5 ... 2.5 mm2)
• for AWG conductors / for auxiliary contacts		2x (20 ... 12)

Certificates/approvals:

General Product Approval				Test Certificates	
CQC	CSA	ROSTEST	UL	Manufacturer	

Shipping Approval					
ABS	DNV	GL	LRS	PRS	RINA

Shipping Approval	other	
RMRS	Manufacturer	VDE

UL/CSA ratings:

yielded mechanical performance (hp)		
• for single-phase squirrel cage motors		
• at 110/120 V / rated value	hp	0.33
• at 230 V / rated value	hp	1
• for three-phase squirrel cage motors		
• at 200/208 V / rated value	hp	2
• at 220/230 V / rated value	hp	3
• at 460/480 V / rated value	hp	5
• at 575/600 V / rated value	hp	7.5
Operating current (FLA) / for three-phase squirrel cage motors		
• at 480 V / rated value	A	7.6
• at 600 V / rated value	A	9
Contact rating designation / for auxiliary contacts / according to UL		A600 / Q600

Safety:related Parameter:

B10 value / with high demand rate		
• according to SN 31920		1,000,000
T1 value / for proof test interval or service life		
• according to IEC 61508	a	20
Proportion of dangerous failures		
• with low demand rate / according to SN 31920	%	40
• with high demand rate / according to SN 31920	%	73
Failure rate (FIT value) / with low demand rate		
• according to SN 31920	FIT	100
Product function		

• mirror contact to IEC 60947-4-1	Yes
• positively driven operation to IEC 60947-5-1	No

Further information:

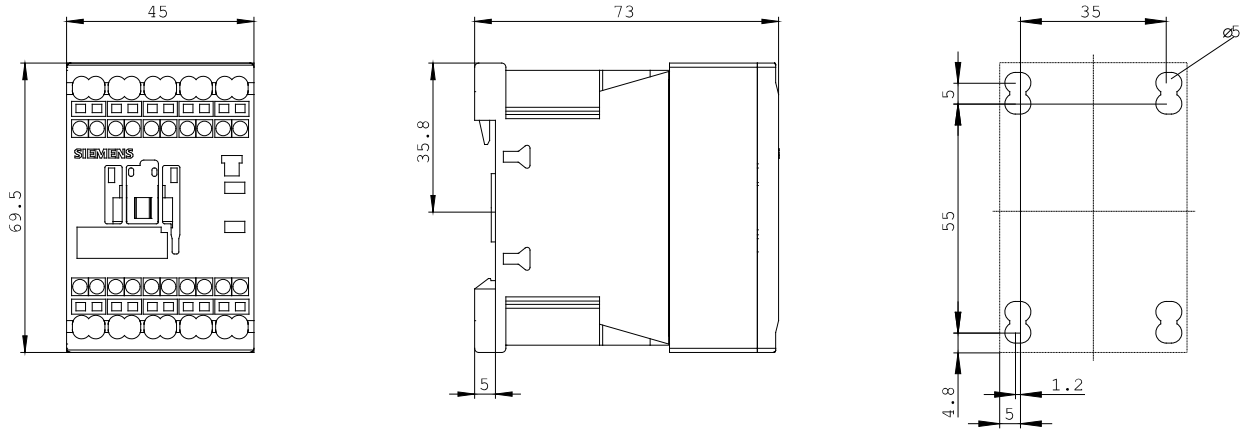
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

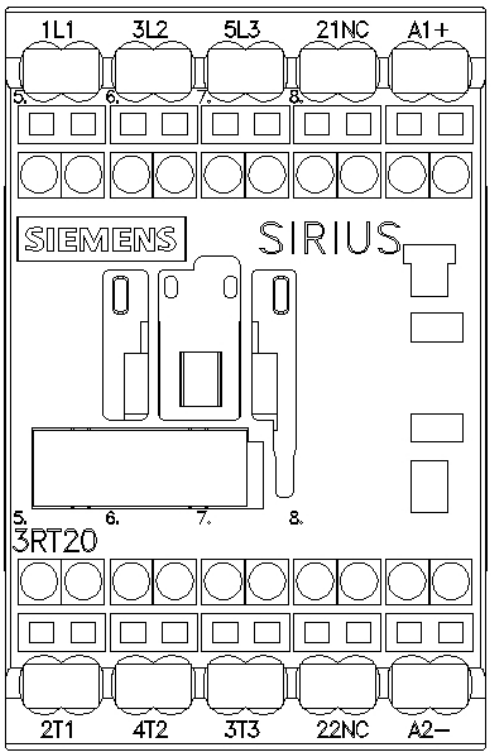
Industry Mall (Online ordering system)
http://www.siemens.com/industrial-controls/mall

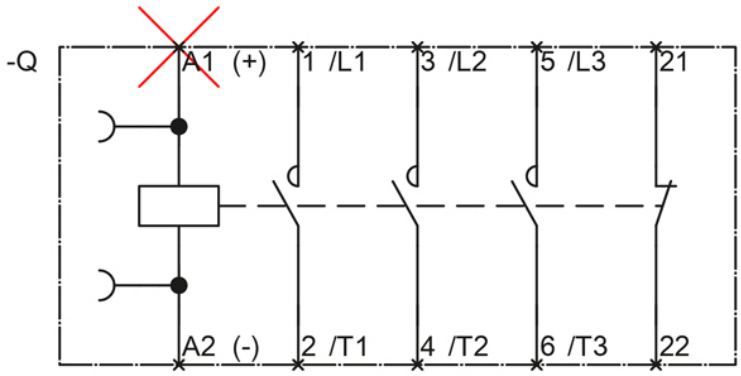
Cax online generator:
http://www.siemens.com/cax

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3RT2016-2BB42/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2016-2BB42







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