SIEMENS

Product data sheet 3RT2028-1BB44



CONTACTOR, AC-3, 18.5KW/400V, 2NO+2NC, DC 24V, 3-POLE, SZ SO SCREW TERMINAL REMOVABLE AUX. SWITCH

General technical data:		
product brand name		SIRIUS
Size of the contactor		S0
Product extension / auxiliary switch		No
Product extension / function module for communication		No
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
during operating	°C	-25 +60
Shock resistance		
at rectangular impulse		
• at DC		10g / 5 ms, 7,5g / 10 ms
• at sine pulse		
• at DC		15g / 5 ms, 10g / 10 ms
Impulse voltage resistance / rated value	kV	6
Insulation voltage / rated value	V	690

Maximum permissible voltage for protective separation / between coil and main contacts / in accordance with EN 60947-1	V	400
Mechanical operating cycles as operating time		
of the contactor / typical		10,000,000
• 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	Α	50
• at 60 °C ambient temperature / rated value	А	42
Connectable conductor cross-section / in main circuit		
• at AC-1		
• at 40 °C / minimum permissible	m²	10
• at 60 °C / minimum permissible	m²	10
Operational current		
• at AC-2 / at 400 V / rated value	Α	38
• at AC-3		
• at 400 V / rated value	Α	38
• at 500 V / rated value	Α	32
• at 690 V / rated value	Α	21
• at AC-4 / at 400 V / rated value	Α	22
Operational current		
• with 1 current path / at DC-1		
• at 24 V / rated value	Α	35
• at 110 V / rated value	Α	4.5
• at 220 V / rated value	Α	1
• at 440 V / rated value	Α	0.4
• at 600 V / rated value	Α	0.25
• with 2 current paths in series / at DC-1		
• at 24 V / rated value	Α	35
• at 110 V / rated value	Α	35
• at 220 V / rated value	Α	5
• at 440 V / rated value	Α	1
• at 600 V / rated value	Α	0.8
• with 3 current paths in series / at DC-1		
• at 24 V / rated value	Α	35
• at 110 V / rated value	Α	35

• at 220 V / rated value	Α	35
• at 440 V / rated value	Α	2.9
• at 600 V / rated value	Α	1.4
Operational current		
• with 1 current path / at DC-3 / at DC-5		
• at 24 V / rated value	Α	20
• at 110 V / rated value	Α	2.5
• at 220 V / rated value	Α	1
• at 440 V / rated value	Α	0.09
• at 600 V / rated value	Α	0.06
• with 2 current paths in series / at DC-3 / at DC-5		
• at 24 V / rated value	Α	35
• at 110 V / rated value	Α	15
• at 220 V / rated value	А	3
• at 440 V / rated value	Α	0.27
• at 600 V / rated value	А	0.16
• with 3 current paths in series / at DC-3 / at DC-5		
• at 24 V / rated value	Α	35
• at 110 V / rated value	Α	35
• at 220 V / rated value	Α	10
• at 440 V / rated value	Α	0.6
at 600 V / rated value	Α	0.6
Service power		
• at AC-1		
• at 230 V / rated value	kW	16
• at 400 V / rated value	kW	28
• at 500 V / rated value	kW	35
• at 690 V / rated value	kW	48
• at AC-2 / at 400 V / rated value	kW	18.5
• at AC-3		
• at 230 V / rated value	kW	11
• at 400 V / rated value	kW	18.5
• at 690 V / rated value	kW	18.5
at AC-4 / at 400 V / rated value	kW	11
Active power loss / at AC-3 / at 400 V / with rated operational current value / per conductor	W	3.8
Off-load operating frequency		
• at AC	1/h	5,000
• at DC	1/h	1,500
Frequency of operation		

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

Control circuit:		
Type of voltage / of the controlled supply voltage		DC
Control supply voltage		
• for DC / rated value	V	24
operating range factor control supply voltage rated value / of the magnet coil		
• for DC		0.8 1.1
Pull-in power / of the solenoid / for DC	W	5.9
Holding power / of the solenoid / for DC	W	5.9
Closing delay		
• at DC	ms	50 170
Opening delay		
• at DC	ms	15 17.5
Arcing time	ms	10 10
Residual current / of electronics / for control with signal <0>		
• at 230 V / with AC / maximum permissible	mA	7
• at 24 V / with DC / maximum permissible	mA	16

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		2
Number of NO contacts / for auxiliary contacts / instantaneous switching		2
Operating current / of the auxiliary contacts		
• [nicht versorgt: PMD_ABP551_001_000]		
•	Α	2
• at 690 V	Α	1

UL/CSA ratings:		
yielded mechanical performance (hp)		
 for single-phase squirrel cage motors 		
• at 110/120 V / rated value	hp	3
at 230 V / rated value	hp	5
• for three-phase squirrel cage motors		
• at 200/208 V / rated value	hp	10
• at 220/230 V / rated value	hp	10

• at 460/480 V / rated value	hp	25
• at 575/600 V / rated value	hp	25
Operating current (FLA) / for three-phase squirrel cage motors		
• at 480 V / rated value	Α	34
• at 600 V / rated value	Α	27
Contact rating designation / for auxiliary contacts / according to UL		A600 / Q600

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: 100 A
• at type of coordination 2 / required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35A

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
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	85
Depth	mm	151
Distance, to be maintained, to the ranks assembly / sidewards	mm	0

Connections:	
Design of the electrical connection	
for main current circuit	screw-type terminals
 for auxiliary and control current circuit 	screw-type terminals
Type of the connectable conductor cross-section	
• for main contacts	
• solid	2x (1 2.5 mm²), 2x (2.5 10 mm²)
• finely stranded	
 with conductor 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	
• solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
• finely stranded	
with conductor end processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)

2x (20 ... 16), 2x (18 ... 14)

Sicherheitsrelevante Kenngrößen:		
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	а	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
• comment		with 3RH29
 positively driven operation to IEC 60947-5-1 		No

Certificates/approvals:

General Product Approval

EMC

Functional Safety / Safety of Machinery











Type Examination



Test Certificates



Special Test Certificate Type Test
Certificates/Test
Report

Shipping Approval













Shipping Approval







Confirmation



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

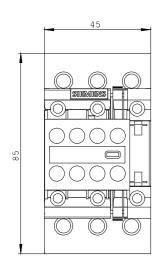
http://www.siemens.com/cax

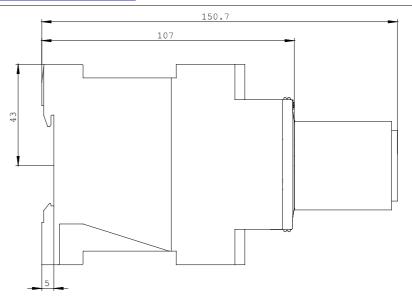
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

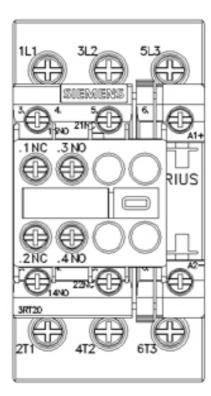
http://support.automation.siemens.com/WW/view/en/3RT2028-1BB44/all

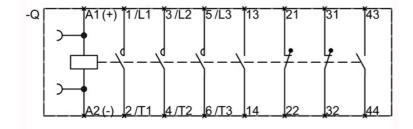
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2028-1BB44









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