SIEMENS

Data sheet

3RT2024-1BF44



CONTACTOR, AC-3, 5.5KW/400V, 2NO+2NC, DC 110V, 3-POLE, SZ S0 SCREW TERMINAL REMOVABLE AUX. SWITCH

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	А	110
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 $^\circ \mathrm{C}$	А	40
Rated value		
— up to 690 V at ambient temperature 40 °C	А	40
Rated value		25
— up to 690 V at ambient temperature 60 °C Rated value	A	35
• at AC-2 at 400 V Rated value	A	12
● at AC-3		
— at 400 V Rated value	А	12
— at 500 V Rated value	А	12
— at 690 V Rated value	А	9
 at AC-4 at 400 V Rated value 	А	12.5
Operating current with 1 current path		
● at DC-1		
— at 24 V Rated value	А	35
— at 110 V Rated value	А	4.5
— at 220 V Rated value	А	1
— at 440 V Rated value	А	0.4
— at 600 V Rated value	А	0.25
● at DC-3 at DC-5		
— at 24 V Rated value	А	20
— at 110 V Rated value	А	2.5
— at 220 V Rated value	А	1
— at 440 V Rated value	А	0.09
— at 600 V Rated value	А	0.06
Operating current with 2 current paths in series		
● at DC-1		
— at 24 V Rated value	А	35
— at 110 V Rated value	А	35
— at 220 V Rated value	А	5
— at 440 V Rated value	А	1
— at 600 V Rated value	А	0.8
• at DC-3 at DC-5		
— at 110 V Rated value	А	15
— at 220 V Rated value	А	3
— at 24 V Rated value	А	35
— at 440 V Rated value	А	0.27
— at 600 V Rated value	А	0.16
Operating current with 3 current paths in series		

• at DC-1		
— at 24 V Rated value	А	35
— at 110 V Rated value	А	35
— at 220 V Rated value	А	35
— at 440 V Rated value	А	2.9
— at 600 V Rated value	А	1.4
• at DC-3 at DC-5		
— at 110 V Rated value	А	35
— at 220 V Rated value	А	10
— at 24 V Rated value	А	35
— at 440 V Rated value	А	0.6
— at 600 V Rated value	А	0.6
Operating power	-	
• at AC-1 at 400 V Rated value	kW	23
• at AC-2 at 400 V Rated value	kW	5.5
• at AC-4 at 400 V Rated value	kW	5.5
Operating power	_	
● at AC-1		
— at 230 V at 60 °C Rated value	kW	13.3
— at 230 V Rated value	kW	13.3
— at 400 V at 60 °C Rated value	kW	23
— at 690 V at 60 °C Rated value	kW	40
— at 690 V Rated value	kW	40
● at AC-3		
— at 230 V Rated value	kW	3
— at 400 V Rated value	kW	5.5
— at 690 V Rated value	kW	7.5
Operating power for \geq 200000 operating cycles at		
AC-4	1.3.07	
• at 400 V Rated value	kW	2.6
at 690 V Rated value	kW	4.6
 Operating frequency at AC-3 maximum 	1/h	1 000
	1/11	1000
Control circuit/ Control:		
Type of voltage of the control supply voltage		DC
Control supply voltage for DC		440
Rated value	V	110
Operating range factor control supply voltage rated value of the magnet coil for DC		0.8 1.1
Closing power of the magnet coil for DC	W	5.9
Holding power of the magnet coil for DC	W	5.9
		0.0

Auxiliary circuit:		
Number of NC contacts		
 for auxiliary contacts 		
— instantaneous contact		2
Number of NO contacts		
 for auxiliary contacts 		
— instantaneous contact		2
Product expansion Auxiliary switch		No
Operating current at AC-15	_	
• at 230 V Rated value	А	6
• at 400 V Rated value	А	3
• at 690 V Rated value	А	1
Operating current		
• at DC-12 at 125 V Rated value	А	2
• at DC-12 at 220 V Rated value	А	1
• at DC-12 at 600 V Rated value	А	0.15
• at DC-13 at 125 V Rated value	А	0.9
• at DC-13 at 220 V Rated value	А	0.3
• at DC-13 at 600 V Rated value	А	0.1
Operating current		
• at DC-12		
— at 60 V Rated value	А	6
— at 110 V Rated value	А	3
• at DC-13		
— at 24 V Rated value	А	6
— at 60 V Rated value	А	2
— at 110 V Rated value	А	1
Contact reliability of the auxiliary contacts	_	1 faulty switching per 100 million (17 V, 1 mA)
JL/CSA ratings:		
Full-load current (FLA) for three-phase AC motor		
• at 480 V Rated value	А	11
• at 600 V Rated value	А	11
yielded mechanical performance [hp]		
 for single-phase AC motor at 110/120 V Rated value 	metric hp	1
 for single-phase AC motor at 230 V Rated value 	metric hp	2
• for three-phase AC motor at 200/208 V Rated	metric	3

• for three-phase AC motor at 220/230 V Rated value

value

3

hp

hp

metric

Income metric hp 10 metric hp Value A600 / Q600 Contact rating of the auxiliary contacts acc. to UL Design of the fuse link - for short-circuit protection of the main circuit - with type of assignment 1 required J/gG LV HRC 3NA, DIAZED SSB, NEOZED SSE: 25 A • for short-circuit protection of the auxiliary switch required gL/gG LV HRC 3NA, DIAZED SSB, NEOZED SSE: 25 A • for short-circuit protection of the auxiliary switch required fuse gL/gG: 10 A Testalalion/ mounting/ dimensions: mounting position -/-180° rotation possible on vertical mounting surface; can be titled forward and backwards by +/-22.5° on vertical mounting surface Mounting type screw and snap-on mounting on 0.35 mm standard mounting rail according to DIN EN 50022 • Side-by-side mounting Yes Height mm Muth side-by-side mounting mm - forwards mm - why side mounting mm - forwards mm	 for three-phase AC motor at 460/480 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 a with type of assignment 2 required for short-circuit protection of the auxiliary switch required for wards for short-circuit pr	• for three-phase AC motor at 575/600 V Rated	metric	10
Short-circuit: Design of the fuse link for short-circuit protection of the main circuit - with type of assignment 1 required - with type of assignment 2 required - for short-circuit protection of the auxiliary switch required gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 A gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 A fuse gL/gG: 10 A Installation/ mounting/ dimensions: +/-180° rotation possible on vertical mounting surface; can be titled forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm standard mounting rule acording to DIN EN 50022 • Side-by-side mounting • Side-by-side mounting • with side-by-side mounting • forwards - forwards - downwards - at the side - forwards - downwards - at the side - forwards - downwards - at the side - forwards - forwards - at the side - forwards - at the side - forwards - forwards - at the side - forwards - at the side - forwards - forwards - forwards - forwards - forwards - forwards - forwards - forwards - forwards - mm - Backwards - forwards - forwards - at the side - downwards - forwards - forwards - mm - backwards - mm - backwards - mm - forwards - mm - backwards - mm - forwards - mm - backwards - mm - backwards - mm - backwards - mm - backwards - mm		np	A500 / O500
Design of the fuse link for short-circuit protection of the main circuit with type of assignment 1 required with type of assignment 2 required for short-circuit protection of the auxiliary switch required gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 63 A gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 A fuse gL/gG: 10 A fuse gL/gG: 10 A Installation/ mounting/ dimensions: mounting position 4/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting unface or on vertical	Contact rating of the auxiliary contacts acc. to OL		A6007 Q600
• for short-circuit protection of the main circuit gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A - with type of assignment 2 required gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A • for short-circuit protection of the auxiliary switch required fuse gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A • for short-circuit protection of the auxiliary switch required fuse gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A • for short-circuit protection of the auxiliary switch required fuse gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A • for short-circuit protection of the auxiliary switch required fuse gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A • for short-circuit protection of the auxiliary switch required fuse gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A • for short-circuit protection of the auxiliary switch required fuse gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A • for short-circuit protection of the auxiliary switch required fuse gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A • for short-circuit protection of the auxiliary switch required fuse gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: g3 A • Site-by-side mounting * * • Site-by-side mounting mm 85 • Width mm 85 • Width mm 151 • Required spacin			
with type of assignment 1 required gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 63 A gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 63 A gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 63 A gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 63 A gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 7 fuse gL/gG: 10 A Installation/ mounting / dimensions: ***********************************	-		
Amount of the second	 for short-circuit protection of the main circuit 		
25 Å • for short-circuit protection of the auxiliary switch required 25 Å Installation/ mounting/ dimensions: fuse gL/gG: 10 Å mounting position +/-180° rotation possible on vertical mounting surface; can to no vertical mounting surface; can to no titled forward and backward by +/- 22.5° on vertical mounting surface Mounting type screw and snap-on mounting onto 35 nm standard mounting rail according to DIN EN 50022 • Side-by-side mounting Yes Height mm Width mm 0 - forwards - forwards mm 0 - downwards - at the side mm 0 - at the side - orwards mm - forwards mm - at the side mm <tr< td=""><td> — with type of assignment 1 required </td><td></td><td></td></tr<>	 — with type of assignment 1 required 		
required Installation/ mounting/ dimensions: mounting position +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical 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 151 Required spacing - - • with side-by-side mounting mm 0 - forwards mm 0 - grounds mm 0 - at the side mm 0 - orwards mm 0 - at the side	— with type of assignment 2 required		
Installation/ mounting/ dimensions: mounting position mounting position Mounting type • Side-by-side mounting • Side-by-side mounting Height mm Width Depth • with side-by-side mounting • side-by-side mounting • with side-by-side mounting • forwards mm 0 - at the side mm • for ingrounded parts - forwards mm - forwards mm - at the side mm - forwards mm - at the side mm - forwards mm - forwards mm	 for short-circuit protection of the auxiliary switch 		fuse gL/gG: 10 A
mounting position +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface Mounting type screace; can be tilted forward and backward by +/- 22.5° on vertical 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 151 Required spacing mm 0 - browards mm 0 - gackwards mm 0 - at the side mm 0 - forwards mm 0 - wards mm 0 - forwards mm 0 - at the side mm 0 - lowards mm 0 - downwards mm 0 - at the side mm 0 - at the side mm 6 - downwards mm 0 - at the side mm 0 - forwards mm 0 - at the side mm 0 - fo			
mounting position +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface Mounting type screace; can be tilted forward and backward by +/- 22.5° on vertical 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 151 Required spacing mm 0 - browards mm 0 - gackwards mm 0 - at the side mm 0 - forwards mm 0 - wards mm 0 - forwards mm 0 - at the side mm 0 - lowards mm 0 - downwards mm 0 - at the side mm 0 - at the side mm 6 - downwards mm 0 - at the side mm 0 - forwards mm 0 - at the side mm 0 - fo	Installation/ mounting/ dimensions:		
Mounting typesurface; can be tilted forward and backward by +/- 22.5° on vertical mounting surfaceMounting typescrew and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022 YesHeightmm85Widthmm45Depthmm151Required spacing forwardsmm0- gakwardsmm0- downwardsmm0- downwardsmm0- at the sidemm0- forwardsmm0- forwardsmm0- at the sidemm0- at the sidemm0 <td></td> <td>_</td> <td>+/-180° rotation possible on vertical mounting</td>		_	+/-180° rotation possible on vertical mounting
Side-by-side mountingmounting rail according to DIN EN 50022Heightmm85Widthmm45Depthmm151Required spacing• with side-by-side mounting forwardsmm0- gackwardsmm0- upwardsmm0- downwardsmm0- at the sidemm0- forwardsmm0- forwardsmm0- at the sidemm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- math esidemm0- odownwardsmm0- at the sidemm6- odownwardsmm0- at the sidemm6- downwardsmm0- at the sidemm0- forwardsmm0-			surface; can be tilted forward and backward by +/-
Heightmm85Widthmm45Depthmm151Required spacing• with side-by-side mounting- forwardsmm0- forwardsmm0- gackwardsmm0- upwardsmm0- downwardsmm0- at the sidemm0- forwardsmm0- forwardsmm0- at the sidemm0- forwardsmm0- at the sidemm0- at the sidemm0- forwardsmm0- at the sidemm0-	Mounting type		
Widthmm45Depthmm151Required spacing- with side-by-side mounting- forwardsmm- forwardsmm- Backwardsmm- upwardsmm- downwardsmm- downwardsmm- at the sidemm- for grounded parts- forwardsmm- forwardsmm- forwardsmm- forwardsmm- forwardsmm- forwardsmm- forwardsmm- at the sidemm- backwardsmm- at the sidemm- backwardsmm- at the sidemm- at the sidemm- backwardsmm- upwardsmm- forwardsmm- forwardsmm- forwardsmm- fury attsmm- fury attsmm- upwardsmm- backwardsmm- upwardsmm- backwardsmm- backwardsmm- backwardsmm- upwardsmm- backwardsmm- backwardsmm- backwardsmm- backwardsmm- backwardsmm- backwardsmm	 Side-by-side mounting 		Yes
Depthmm151Required spacing• with side-by-side mountingmm- forwardsmm- forwardsmm- Backwardsmm- upwardsmm- downwardsmm- downwardsmm- at the sidemm- for grounded parts forwardsmm- forwardsmm- forwardsmm- forwardsmm- forwardsmm- forwardsmm- honwardsmm- honwardsmm <t< td=""><td>Height</td><td>mm</td><td>85</td></t<>	Height	mm	85
Required spacingImage: Spacing (Second Second S	Width	mm	45
with side-by-side mountingImm0- forwardsmm0- Backwardsmm0- upwardsmm0- downwardsmm0- at the sidemm0- for grounded partsImm0- forwardsmm0- Backwardsmm0- forwardsmm0- forwardsmm0- at the sidemm0- upwardsmm0- upwardsmm0- at the sidemm0- at the sidemm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- marksmm0- marksmm0 </td <td>Depth</td> <td>mm</td> <td>151</td>	Depth	mm	151
- forwardsmm0- Backwardsmm0- upwardsmm0- downwardsmm0- downwardsmm0- at the sidemm0• for grounded parts forwardsmm0- Backwardsmm0- upwardsmm0- het sidemm0- backwardsmm0- at the sidemm0- at the sidemm6- downwardsmm0- for live parts forwardsmm0- Backwardsmm0- Backwardsmm0- het sidemm0- forwardsmm0- het sidemm0-	Required spacing		
Backwardsmm0- Backwardsmm0- upwardsmm0- downwardsmm0- at the sidemm0• for grounded parts forwardsmm0- Backwardsmm0- upwardsmm0- at the sidemm6- downwardsmm0- for live parts forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- marksmm0- marksmm0- marksmm0- upwardsmm0- upwards- upwards- upwards- upwards <td> with side-by-side mounting </td> <td></td> <td></td>	 with side-by-side mounting 		
- upwardsmm0- downwardsmm0- at the sidemm0- for grounded parts forwardsmm0- Backwardsmm0- upwardsmm0- at the sidemm6- downwardsmm0- for live parts forwardsmm0- forwardsmm0- at the sidemm6- downwardsmm0- for live parts forwardsmm0- hackwardsmm0- upwardsmm0	— forwards	mm	0
- downwardsmm0- at the sidemm0• for grounded parts forwardsmm0- Backwardsmm0- upwardsmm0- at the sidemm6- downwardsmm0- for live parts forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- forwardsmm0- hackwardsmm0- hackwardsmm </td <td>— Backwards</td> <td>mm</td> <td>0</td>	— Backwards	mm	0
- at the sidemm0• for grounded partsmm0- forwardsmm0- Backwardsmm0- upwardsmm0- at the sidemm6- downwardsmm0- for live partsmm0- forwardsmm0- Backwardsmm0- forwardsmm0- forwardsmm0- gackwardsmm0- mm00- mm0- mm0- mm0- nupwardsmm0	— upwards	mm	0
 for grounded parts forwards mm Backwards mm Backwards mm 	— downwards	mm	0
forwardsmm0 Backwardsmm0 upwardsmm0 at the sidemm6 downwardsmm0 forwardsmm0 forwardsmm0 Backwardsmm0 Backwardsmm0 mumm0 mumm0 mumm0 mumm0 mumm0	— at the side	mm	0
Backwardsmm0 upwardsmm0 at the sidemm6 downwardsmm0 for live parts forwardsmm0 Backwardsmm0 upwardsmm0	 for grounded parts 		
upwardsmm0 at the sidemm6 downwardsmm0 for live parts forwardsmm0 Backwardsmm0 upwardsmm0	— forwards	mm	0
at the sidemm6 downwardsmm0• for live parts forwardsmm0 Backwardsmm0 upwardsmm0	— Backwards	mm	0
- downwardsmm0• for live partsmm0- forwardsmm0- Backwardsmm0- upwardsmm0	— upwards	mm	0
 for live parts forwards mm Backwards mm mm 0 mm 0 0 	— at the side	mm	6
forwardsmm0 Backwardsmm0 upwardsmm0	— downwards	mm	0
— Backwards mm 0 — upwards mm 0	• for live parts		
— upwards mm 0	— forwards	mm	0
	— Backwards	mm	0
— downwards 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)
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	У	20
Protection against electrical shock		finger-safe
Mechanical data:		
Size of contactor		S0
Ambient conditions:		
Installation altitude at height above sea level	m	2 000
maximum		
Ambient temperature	°C	-25 +60
during operation	°C	-25 +80
during storage	U	-55 700
Certificates/ approvals:		

General Produc	t Approval			EMC	Functional Safety/Safety of Machinery
	CSA		EHC	С-ТІСК	Type Examination
Declaration of Conformity	Test Certificates		Shipping App	roval	
EG-Konf.	<u>Type Test</u> <u>Certificates/Test</u> <u>Report</u>	Special Test Certificate	ABS	BUREAU VERITAS	
Shipping Approv	/al				other
GL®	Lloyd's Register				Confirmation
GL	LRS	PRS	RINA	RMRS	
GL other	LRS	PRS	RINA	RMRS	

urther information

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