SIEMENS

Data sheet

3RT2025-2BB44



power contactor, AC-3 17 A, 7.5 kW / 400 V 2 NO + 2 NC, 24 V DC, 3-pole, Size S0 Spring-type terminal Removable auxiliary switch

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	SO
product extension	
 function module for communication 	No
auxiliary switch	No
power loss [W] for rated value of the current	
 at AC in hot operating state 	1.8 W
 at AC in hot operating state per pole 	0.6 W
 without load current share typical 	5.9 W
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
 of auxiliary circuit with degree of pollution 3 rated value 	690 V
surge voltage resistance	
 of main circuit rated value 	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation betweencoil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 7,5g / 10 ms
shock resistance with sine pulse	
• at DC	15g / 5 ms, 10g / 10 ms
mechanical service life (switching cycles)	
 of contactor typical 	10 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
 during operation 	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
 at AC-3 rated value maximum 	690 V
 at AC-3e rated value maximum 	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	40 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	40 A
— up to 690 V at ambient temperature 60 °C rated value	35 A
• at AC-3	
— at 400 V rated value	17 A
— at 500 V rated value	17 A
— at 690 V rated value	13 A
• at AC-3e	
— at 400 V rated value	17 A
— at 500 V rated value	17 A
— at 690 V rated value	13 A
• at AC-4 at 400 V rated value	15.5 A
• at AC-5a up to 690 V rated value	35.2 A
• at AC-5b up to 400 V rated value	14.1 A
• at AC-6a	
 up to 230 V for current peak value n=20 rated value 	11.4 A
 up to 400 V for current peak value n=20 rated value 	11.4 A
 up to 500 V for current peak value n=20 rated value 	11.4 A
 — up to 690 V for current peak value n=20 rated value 	11.3 A
 at AC-6a up to 230 V for current peak value n=30 rated value 	7.6 A
value — up to 400 V for current peak value n=30 rated value	7.6 A
— up to 500 V for current peak value n=30 rated value	7.6 A
 up to 690 V for current peak value n=30 rated value 	7.6 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm ²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	7.7 A
• at 690 V rated value	7.7 A
operational current	
 at 1 current path at DC-1 	
— at 24 V rated value	35 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1A
— at 600 V rated value	0.8 A
• with 3 current paths in series at DC-1	
• with 5 current paths in series at DC-1	

	— at 24 V rated value	35 A
	— at 110 V rated value	35 A
	— at 220 V rated value	35 A
+ if current path at DC-3 at DC-5 2.5 A - at 220 V rated value 2.5 A - at 220 V rated value 0.09 A - at 24 V rated value 0.09 A 0.08 A - at 24 V rated value 0.09 A 0.08 A - at 24 V rated value 0.09 A - at 24 V rated value 0.08 A - at 210 V rated value 35 A - at 200 V rated value 0.16 A - at 240 V rated value 0.16 A - at 210 V rated value 0.16 A - at 210 V rated value 35 A - at 210 V rated value 0.16 A - at 210 V rated value 0.6 A - at 210 V rated value 0.6 A - at 210 V rated value 0.6 A - at 210 V rated value 7.5 kW - at 220 V rated value 7.5 kW - at 230 V rated value 7.5 kW - at 230 V rated value 7.5 kW - at 400 V rated value 7.5 kW - at 230 V rated value 6 kW	— at 440 V rated value	2.9 A
	— at 600 V rated value	1.4 A
	 at 1 current path at DC-3 at DC-5 	
	— at 24 V rated value	20 A
	— at 110 V rated value	2.5 A
	— at 220 V rated value	1 A
 with 2 current paths in series at DC-3 at DC-5 at 24 V rated value at 220 V rated value 35 A at 220 V rated value 36 A at 220 V rated value 37 A at 24 V rated value 37 A at 24 V rated value 36 A at 24 V rated value 37 A at 24 V rated value 36 A at 25 V rated value 36 A at 230 V rated value 36 A at 230 V rated value 400 V rated value 51 KW at 400 V rated value 51 KW at 600 V fracturent peak value m20 rated value 51 KW at 600 V fracturent peak value m20 rated value 51 KW at 600 V fracturent peak value m20 rated value 52 KW at 600 V fracturent peak value m30 rated value 52 KW at 600 V fracturent peak value m30 rated value 52 KW at 600 V fracturent peak value m30 rated value 52 KW at 600 V fracturent peak value m	— at 440 V rated value	0.09 A
	— at 600 V rated value	0.06 A
	 with 2 current paths in series at DC-3 at DC-5 	
	-	35 A
- at 440 V rated value 0.27 A - at 600 V rated value 0.16 A - at 24 V rated value 35 A - at 710 V rated value 35 A - at 1220 V rated value 0.6 A - at 200 V rated value 0.6 A operating power 0.6 A - at 400 V rated value 0.6 A operating power 0.6 A - at 400 V rated value 0.6 A - at 230 V rated value 7.5 kW - at 600 V rated value 7.5 kW - at 600 V rated value 11 kW • at 400 V rated value 35 kW • at 600 V rated value 12 kVA • at 600 V rated value 35 kW • at 600 V rated value 35 kW • at 600 V rated value 35 kW • at 600 V for current pack value n=20 rated value • up to 500 V for current pack value n=30 rated value • up to 500 V for current pack value n=30 rated value • up to 500 V for current pack value n=30 rated value • up to 500 V for current pack valu	— at 110 V rated value	15 A
- at 440 V rated value 0.27 A - at 600 V rated value 0.16 A - at 24 V rated value 35 A - at 710 V rated value 35 A - at 1220 V rated value 0.6 A - at 200 V rated value 0.6 A operating power 0.6 A - at 400 V rated value 0.6 A operating power 0.6 A - at 400 V rated value 0.6 A - at 230 V rated value 7.5 kW - at 600 V rated value 7.5 kW - at 600 V rated value 11 kW • at 400 V rated value 35 kW • at 600 V rated value 12 kVA • at 600 V rated value 35 kW • at 600 V rated value 35 kW • at 600 V rated value 35 kW • at 600 V for current pack value n=20 rated value • up to 500 V for current pack value n=30 rated value • up to 500 V for current pack value n=30 rated value • up to 500 V for current pack value n=30 rated value • up to 500 V for current pack valu	— at 220 V rated value	3 A
	— at 440 V rated value	0.27 A
 with 3 current paths in series at DC-3 at DC-5 at 24 V rated value 35 A at 110 V rated value 36 A at 220 V rated value 0.6 A operating power at 600 V rated value 0.6 A operating power at 600 V rated value 0.6 A operating power at 600 V rated value 7.5 kW at 600 V rated value 7.5 kW at 230 V rated value 7.5 kW at 200 V rated value 7.5 kW at 400 V rated value 4.5 kW at 400 V rated value 7.5 kW at 400 V rated value 5.5 kW at 400 V rated value 5.5 kW at 400 V rated value 9.5 kW at 400 V rated value 9.6 kW 9.7 kVA 9.8 kVA 9.9 to 500 V for current peak value n=30 rated value 9.8 kVA 9.9 to 500	— at 600 V rated value	
	-	35 A
operating power at AC-3 at 230 V rated value at 600 V rated value at 600 V rated value at 600 V rated value at AC-3e at 230 V rated value at AC-3e at AC-4 value Auto V rated value at S00 V rated value at S00 V rated value at 600 V rated value at 600 V rated value by V rated value c) to 200 V for current peak value n=20 rated value by VA c) to 230 V for current peak value n=30 rated value c) to 690 V for current peak value n=30 rated value c) to 690 V for current peak value n=30 rated value c) to 400 V for current peak value n=30 rated value c) to 400 V for current peak value n=30 rated value c) to 400 V for current maximum limited to 1s switching at zero current maximum<td></td><td></td>		
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• at DC1 500 1/hoperating frequency1• at AC-1 maximum1 000 1/h• at AC-2 maximum1 000 1/h		96 A; Use minimum cross-section acc. to AC-1 rated value
operating frequency• at AC-1 maximum1 000 1/h• at AC-2 maximum1 000 1/h	no-load switching frequency	
• at AC-1 maximum 1 000 1/h • at AC-2 maximum 1 000 1/h	• at DC	1 500 1/h
• at AC-2 maximum 1 000 1/h	operating frequency	
	 at AC-1 maximum 	1 000 1/h
• at AC-3 maximum 1 000 1/h	• at AC-2 maximum	1 000 1/h
	• at AC-3 maximum	1 000 1/h

• at AC-3e maximum	1 000 1/h
• at AC-4 maximum	300 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	
rated value	24 V
operating range factor control supply voltage rated	
value of magnet coil at DC	
• initial value	0.8
• full-scale value	1.1
closing power of magnet coil at DC	5.9 W 5.9 W
holding power of magnet coil at DC closing delay	5.9 W
• at DC	50 170 ms
opening delay	
• at DC	15 17.5 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts	2
instantaneous contact	
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value	6 A
• at 400 V rated value	3 A
• at 500 V rated value	2 A
at 690 V rated value	1 A
operational current at DC-12	
• at 24 V rated value	10 A
• at 48 V rated value	6 A
at 60 V rated value	6 A
 at 110 V rated value at 125 V rated value 	3 A 2 A
at 220 V rated value	2 A 1 A
at 600 V rated value	0.15 A
operational current at DC-13	
at 24 V rated value	6 A
at 48 V rated value	2 A
at 60 V rated value	2 A
• at 110 V rated value	1 A
• at 125 V rated value	0.9 A
• at 220 V rated value	0.3 A
• at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	14 A
at 600 V rated value	17 A
yielded mechanical performance [hp]	
for single-phase AC motor	4 ha
- at 110/120 V rated value	1 hp
— at 230 V rated value	3 hp
for 3-phase AC motor at 200/208 \/ rated value	3 hn
— at 200/208 V rated value — at 220/230 V rated value	3 hp 5 hp
— at 460/480 V rated value	10 hp
— at 575/600 V rated value	15 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
contact raining of auximary contacts according to DE	

Short-circuit protection	
design of the fuse link	
 for short-circuit protection of the main circuit 	
— with type of coordination 1 required	gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)
— with type of assignment 2 required	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)
 for short-circuit protection of the auxiliary switch 	gG: 10 A (500 V, 1 kA)
required	
nstallation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted
	forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail
	according to DIN EN 60715
side-by-side mounting	Yes
height	102 mm
width	45 mm
depth	154 mm
required spacing	
 with side-by-side mounting 	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
 for grounded parts 	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
 for live parts 	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
 for main current circuit 	spring-loaded terminals
 for auxiliary and control circuit 	spring-loaded terminals
 at contactor for auxiliary contacts 	Spring-type terminals
of magnet coil	Spring-type terminals
type of connectable conductor cross-sections	
for main contacts	
— solid	2x (1 10 mm²)
— solid or stranded	2x (1 10 mm ²)
 finely stranded with core end processing 	2x (1 6 mm ²)
— finely stranded without core end processing	2x (1 6 mm ²)
at AWG cables for main contacts	2x (18 8)
connectable conductor cross-section for main contacts	
• solid	1 10 mm²
stranded	1 10 mm²
 finely stranded with core end processing 	1 6 mm²
 finely stranded without core end processing 	1 6 mm²
connectable conductor cross-section for auxiliary	
contacts	
 solid or stranded 	0.5 2.5 mm²
 finely stranded with core end processing 	0.5 1.5 mm²
 finely stranded without core end processing 	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 2.5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm ²)
— Intery stranded with core end processing	2X (0.5 1.5 mm)

	for auxiliary contacts		2x (20 14	4)			
AWG number as coo	ded connectable cond	uctor cross					
 for main contact 	ts		18 8				
 for auxiliary cor 							
Safety related data							
product function							
 mirror contact a 	according to IEC 60947-	4-1	Yes				
 positively driver 5-1 	n operation according to	IEC 60947-	No				
	emand rate according to	o SN 31920	450 000				
proportion of dange							
	d rate according to SN			40 %			
	nd rate according to SN low demand rate accord		73 % 100 FIT				
31920			100 FT1				
T1 value for proof tes IEC 61508	t interval or service life a	according to	20 y				
protection class IP o 60529	on the front according	to IEC	IP20				
touch protection on	the front according to	IEC 60529	finger-safe	, for vertical cont	act from the front		
suitability for use							
 safety-related s 	-		Yes				
Certificates/ approval	S						
General Product Ap	proval						
(SP)	<u>Confirmation</u>			Ű	<u>KC</u>	EHC	
EMC	Functional Safety/Safety of Machinery	Declaration o	of Conformit	y	Test Certificates		
RCM	<u>Type Examination</u> <u>Certificate</u>	UK CA		CE EG-Konf.	Type Test Certific- ates/Test Report	Special Test Certific- ate	
Marine / Shipping							
ABS	BUREAU VERITAS			Llovd's Register urs	PRS	RINA	
Marine / Shipping	other				Dangerous Good		
RARS RARS	Environmental Con- firmations	<u>Confirmatio</u>	<u>on</u>		<u>Transport Informa-</u> tion		
Further information Information- and Downloadcenter (Catalogs, Brochures,) https://www.siemens.com/ic10 Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2025-2BB44							

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2025-2BB44

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

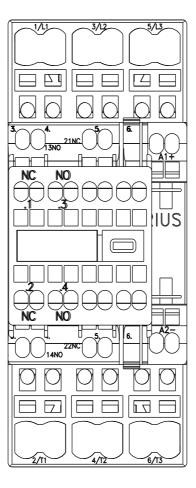
https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-2BB44

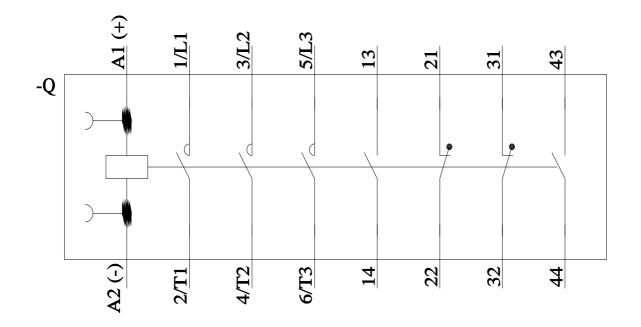
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2025-2BB44&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-2BB44/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2025-2BB44&objecttype=14&gridview=view1





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