SIEMENS

Data sheet 3RT2025-1AB04



CONTACTOR, AC-3, 7.5KW/400V, 2NO+2NC, AC 24V 50HZ, 3-POLE, SZ S0 SCREW TERMINAL REMOVABLE AUX. SWITCH

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	Α	150
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

SIRIUS

Operating voltage

Number of NO contacts for main contacts

3

• at AC-3 Rated value maximum	V	690
Operating current		
• at AC-1		
 — at 400 V at ambient temperature 40 °C Rated value 	Α	40
— up to 690 V at ambient temperature 40 °C Rated value	Α	40
— up to 690 V at ambient temperature 60 °C Rated value	Α	35
• at AC-2 at 400 V Rated value	Α	17
• at AC-3		
— at 400 V Rated value	Α	17
— at 500 V Rated value	Α	17
— at 690 V Rated value	Α	13
• at AC-4 at 400 V Rated value	Α	15.5
Operating 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
• 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
Operating current 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
• at DC-3 at DC-5		
— at 110 V Rated value	Α	15
— at 220 V Rated value	Α	3
— at 24 V Rated value	Α	35
— at 440 V Rated value	Α	0.27
— at 440 v Rateu value		

• 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
• at DC-3 at DC-5		
— at 110 V Rated value	Α	35
— at 220 V Rated value	Α	10
— at 24 V Rated value	Α	35
— at 440 V Rated value	Α	0.6
— at 600 V Rated value	Α	0.6
Operating power		
• at AC-1 at 400 V Rated value	kW	23
• at AC-2 at 400 V Rated value	kW	7.5
• at AC-4 at 400 V Rated value	kW	7.5
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	4
— at 400 V Rated value	kW	7.5
— at 690 V Rated value	kW	11
Operating power for ≥ 200000 operating cycles at AC-4		
• at 400 V Rated value	kW	3.5
• at 690 V Rated value	kW	6
Operating frequency		
• at AC-3 maximum	1/h	1 000
Control circuit/ Control:		
Type of voltage of the control supply voltage		AC
Control supply voltage with AC		04
at 50 Hz Rated value Operating range factor central supply voltage rated.	V	24
Concreting renge tester control cumply voltage reted		

Control circuit/ Control:		
Type of voltage of the control supply voltage		AC
Control supply voltage with AC		
● at 50 Hz Rated value	V	24
Operating range factor control supply voltage rated value of the magnet coil with AC		
● at 50 Hz		0.8 1.1

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	Α	6
• at 400 V Rated value	Α	3
• at 690 V Rated value	Α	1
Operating current		
• at DC-12 at 125 V Rated value	Α	2
• at DC-12 at 220 V Rated value	Α	1
• at DC-12 at 600 V Rated value	Α	0.15
• at DC-13 at 125 V Rated value	Α	0.9
• at DC-13 at 220 V Rated value	Α	0.3
• at DC-13 at 600 V Rated value	Α	0.1
Operating current		
● at DC-12		
— at 60 V Rated value	Α	6
— at 110 V Rated value	Α	3
• at DC-13		
— at 24 V Rated value	Α	6
— at 60 V Rated value	Α	2
— at 110 V Rated value	Α	1
Contact reliability of the auxiliary contacts	_	1 faulty switching per 100 million (17 V, 1 mA)
H /00A - C	_	
JL/CSA ratings: Full-load current (FLA) for three-phase AC motor		
• at 480 V Rated value	Α	14
• at 600 V Rated value	A	17
yielded mechanical performance [hp]		
• for single-phase AC motor at 110/120 V Rated	metric	1
value	hp	
• for single-phase AC motor at 230 V Rated	metric	3
value	hp	
• for three-phase AC motor at 200/208 V Rated	metric	3
value	hp	
• for three-phase AC motor at 220/230 V Rated	metric	5
value	hp	
		10
 for three-phase AC motor at 460/480 V Rated 	metric	10

• for three-phase AC motor at 575/600 V Rated value	metric hp	15
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: 63 A
— with type of assignment 2 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 A
 for short-circuit protection of the auxiliary switch required 	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		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	141
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:

• for main current circuit • for auxiliary and control current circuit Type of connectable conductor cross-section • for main contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for main contacts — single or multi-stranded — finely stranded with core end processing • for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for auxiliary contacts Apparent pick-up power of the magnet coil with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to SN 31920 Froport test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation • "C" -25 +60 • during storage *C" -55 +80	Type of electrical connection		
Type of connectable conductor cross-section • for main contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for main contacts • single or multi-stranded — finely stranded with core end processing • for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for auxiliary contacts Apparent plck-up power of the magnet coll with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation **C -25 +60	for main current circuit		screw-type terminals
• for main contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for main contacts • for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for main contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for auxiliary contacts Apparent pick-up power of the magnet coil with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock finger-safe Mechanical data: Size of contactor S0 Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation *C -25 +60	 for auxiliary and control current circuit 		screw-type terminals
single or multi-stranded finely stranded with core end processing • for AWG conductors for main contacts • for auxiliary contacts single or multi-stranded finely stranded with core end processing • for AWG conductors for main contacts • single or multi-stranded finely stranded with core end processing • for AWG conductors for auxiliary contacts single or multi-stranded finely stranded with core end processing • for AWG conductors for auxiliary contacts Apparent pick-up power of the magnet coil with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to SN 31920 Froutertion Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to [EC 61947-4-1] T1 value for proof test interval or service life acc. to [EC 60947-4-1] Size of contactor S0 Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation **C -25 +60	Type of connectable conductor cross-section		
finely stranded with core end processing • for AWG conductors for main contacts • for auxilliary contacts single or multi-stranded finely stranded with core end processing • for AWG conductors for auxiliary contacts single or multi-stranded finely stranded with core end processing • for AWG conductors for auxiliary contacts Apparent pick-up power of the magnet coil with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light demand rate acc. to SN 31920 • with light dema	• for main contacts		
• for AWG conductors for main contacts • for auxiliary contacts • single or multi-stranded — finely stranded with core end processing • for AWG conductors for auxiliary contacts Apparent pick-up power of the magnet coll with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 Proportion of the magnet coll with AC • at 1 [FIT] with low demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor Ambient conditions: Installation altitude at height above sea level maximum Anblent temperature • during operation C C -25 +60	 single or multi-stranded 		2x (1 2,5 mm²), 2x (2,5 10 mm²)
• for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • for AWG conductors for auxiliary contacts Apparent pick-up power of the magnet coll with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 * with high demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation *C -25 +60	 finely stranded with core end processing 		2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
- single or multi-stranded - finely stranded with core end processing • for AWG conductors for auxiliary contacts Apparent pick-up power of the magnet coil with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation 2x (0.5 1,5 mm²), 2x (0.75 2,5 mm²) 2x (20 16), 2x (18 14) 4x (0.5 1,5 mm²), 2x (0.75 2,5 mm²) 2x (20 16), 2x (18 14) 4x (20 16), 2x (18	 for AWG conductors for main contacts 		2x (16 12), 2x (14 8)
- finely stranded with core end processing • for AWG conductors for auxiliary contacts Apparent pick-up power of the magnet coil with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor Ambient conditions: Installation altitude at height above sea level maximum Amblent temperature • during operation 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14) 40 40 40 40 40 40 40 40 40	• for auxiliary contacts		
for AWG conductors for auxiliary contacts Apparent pick-up power of the magnet coil with AC at 50 Hz V:A 65 Safety related data: B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures with low demand rate acc. to SN 31920 with high demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature during operation C C -25 +60	— single or multi-stranded		2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)
Apparent pick-up power of the magnet coil with AC • at 50 Hz Safety related data: B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor S0 Ambient conditions: Installation altitude at height above sea level maximum Amblent temperature • during operation V·A 65 V·A 65 S0 40 40 40 40 40 40 40 40 4	 finely stranded with core end processing 		2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
* at 50 Hz * At 50 Hz * At 50 Hz B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures * with low demand rate acc. to SN 31920 * with high demand rate acc. to SN 31920 * with high demand rate acc. to SN 31920 * with high demand rate acc. to SN 31920 * with low demand rate acc. to SN 31920 * Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 **Taylue for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data:	 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	Apparent pick-up power of the magnet coil with AC		
B10 value with high demand rate acc. to SN 31920 Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock finger-safe Mechanical data: Size of contactor S0 Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation 1 000 000 1 000 000 40 40 40 40 40 40 40 40	● at 50 Hz	V·A	65
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 Product function Mirror contact acc. to IEC 60947-4-1 Yes T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock finger-safe Mechanical data: Size of contactor S0 Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation °C -25 +60	Safety related data:		
with low demand rate acc. to SN 31920 % 73 Failure rate [FIT] with low demand rate acc. to SN 31920 % 73 Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 Yes T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock finger-safe Mechanical data: Size of contactor S0 Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation °C -25 +60	-		1 000 000
● with high demand rate acc. to SN 31920 % 73 Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 Yes T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock finger-safe Mechanical data: Size of contactor S0 Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature ● during operation °C -25 +60	Proportion of dangerous failures		
Failure rate [FIT] with low demand rate acc. to SN 31920 Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor S0 Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation • C -25 +60	 with low demand rate acc. to SN 31920 		40
Product function Mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor S0 Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation • during operation Yes y 20 English acc. to y 20 So So So So -25 +60		%	73
T1 value for proof test interval or service life acc. to IEC 61508 Protection against electrical shock Mechanical data: Size of contactor Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation y 20 English acc. to graph acc. to		FIT	100
Protection against electrical shock Mechanical data: Size of contactor So Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation finger-safe m 2 000 max 2 000 cc -25 +60	Product function Mirror contact acc. to IEC 60947-4-1		Yes
Mechanical data: Size of contactor Size of contactor So Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation or color of the contactor of th	-	у	20
Size of contactor Ambient conditions: Installation altitude at height above sea level maximum Ambient temperature • during operation S0 m 2 000 column 3 000 colum	Protection against electrical shock		finger-safe
Ambient conditions: Installation altitude at height above sea level m 2 000 maximum Ambient temperature • during operation °C -25 +60	Mechanical data:		
Installation altitude at height above sea level maximum Ambient temperature • during operation m 2 000 c C -25 +60	Size of contactor		S0
maximum Ambient temperature ● during operation °C -25 +60			
Ambient temperature ● during operation °C -25 +60	•	m	2 000
• during operation °C -25 +60			
	•	°C	25 160
● during storage -55 +80	• .		
	during storage	· C	-55 +80
Certificates/ approvals:	Certificates/ approvals:		

General Product Approval

EMC

Functional Safety/Safety of Machinery

Type Examination











Declaration	0
Conformity	

Test Certificates

Shipping Approval



Special Test Certificate Type Test
Certificates/Test
Report







Shipping Approval

other



GL









Confirmation

other

Environmental Confirmations



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http://www.siemens.com/industrial-controls/catalogs

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http://www.siemens.com/industrymall

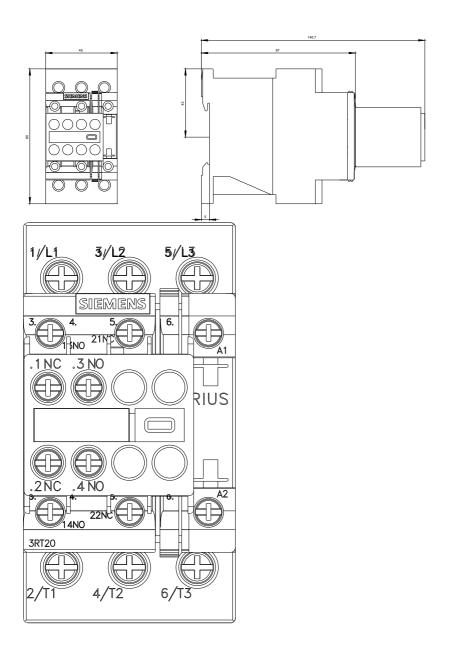
Cax online generator

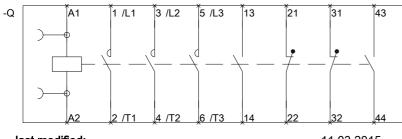
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last modified: 11.03.2015