SIEMENS

Data sheet

3RT2025-2AP00

CONTACTOR, AC-3, 7.5KW/400V, 1NO+1NC, AC 230V 50HZ, 3-POLE, SZ S0 SPRING-LOADED TERMINAL



product brandname	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	Yes
Insulation voltage	
 rated value 	690 V
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
 between coil and main contacts acc. to EN 	400 V
60947-1	
Protection class IP	
• on the front	IP20
• of the terminal	IP20
Shock resistance at rectangular impulse	
● at AC	7,5g / 5 ms, 4,7g / 10 ms

• at AC11,8g / 5 ms, 7.4g / 10 msMechanical service iffe (switching cycles) • of contactor typical0 000 000• of the contactor with added electronics- compatible auxiliary switch block typical0 000 000• of the contactor with added auxiliary switch block typical10 000 000Ambient temperature • during storage- 25 + 60 °C• during storage- 25 + 60 °C• during storage- 3Operating voltage • at AC 1 at 400 V- 3• at AC 1 • at C1- 40 °C rated value• at AC 1 • at AC 1 at 400 V- 40 °C• at AC 2 at 400 V rated value40 A• at AC 2 at 400 V rated value17 A• at AC 2 at 400 V rated value17 A• at AC 2 at 400 V rated value10 mm²• at AC 4 value- 17 A• at 600 V rated value- 17 A• at 600 V rated value- 17 A• at 600 V rated value- 10 mm²• at 600 V rated value- 77 A• at 600 V rated va	Shock resistance with sine pulse	
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Number of poles for main current circuit 3 Number of NO contacts for main contacts 3 Operating voltage 690 V • at AC-3 rated value maximum 690 V Operating current • at AC-1 at 400 V - at ambient temperature 40 °C rated value 40 A • at AC-1 40 A • at AC-1 40 A • at AC-1 40 A - 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 - up to 690 V rated value 17 A • at AC-3	Main circuit	
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• at AC-3 rated value maximum690 VOperating current • at AC-1 at 400 V — at ambient temperature 40 °C rated value40 A• at AC-1 — up to 690 V at ambient temperature 40 °C rated value40 A- up to 690 V at ambient temperature 60 °C rated value35 A- up to 690 V at ambient temperature 60 °C rated value17 A• at AC-2 at 400 V rated value17 A• at AC-3 — at 690 V rated value17 A• at 60 °C minimum permissible10 mm²• at 60 °C minimum permissible10 mm²• at 400 V rated value7.7 A• at 400 V rated value7.7 A• at 400 V rated value7.7 A• at 690 V rated value7.7 A• at 690 V rated value7.7 A• at 400 V rated value7.7 A• at 690 V rated value7.7 A• at 400 V rated value7.7 A	Number of NO contacts for main contacts	3
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	— at ambient temperature 40 °C rated value	40 A
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rated value17 A• at AC-2 at 400 V rated value17 A• at AC-3 at 400 V rated value17 A- at 500 V rated value17 A- at 690 V rated value13 AConnectable conductor cross-section in main circuit at AC-110 mm²• at 60 °C minimum permissible10 mm²• at 60 °C minimum permissible10 mm²• at 60 °C minimum permissible7.7 A• at 400 V rated value7.7 A• at 400 V rated value7.7 A• at 690 V rated value7.7 A• at 690 V rated value7.7 A• at 24 V rated value85 A		40 A
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- at 400 V rated value17 A- at 500 V rated value17 A- at 690 V rated value13 AConnectable conductor cross-section in main circuit at AC-110 mm²• at 60 °C minimum permissible10 mm²• at 40 °C minimum permissible10 mm²• at 400 V rated value7.7 A• at 400 V rated value7.7 A• at 690 V rated value35 A	• at AC-2 at 400 V rated value	17 A
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• at 690 V rated value 7.7 A Operating current - at 24 V rated value 35 A	cycles at AC-4	
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at 1 current path at DC-1 — at 24 V rated value 35 A		7.7 A
— at 24 V rated value 35 A	Operating current	
	• at 1 current path at DC-1	
- at 110 V rated value 4.5 A	— 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	1 A
— at 600 V rated value	0.8 A
 with 3 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
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
Operating current	
 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
— 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	
— at 24 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 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	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
Operating power	
• at AC-1	
— at 230 V rated value	13.3 kW
— at 230 V at 60 °C rated value	13.3 kW
— at 400 V rated value	23 kW
— at 400 V at 60 °C rated value	23 kW
— at 690 V rated value	40 kW

et AC-34 kW- at 230 V rated value4 kW- at 690 V rated value7.5 kW- at 690 V rated value11 kWOperating power for approx. 20000 operating cyclesat AC-43.5 kW• at 400 V rated value6 kW• at 400 V rated value6 kW• at 690 V rated value9 W• at AC-4 maximum1000 1/h• at AC-1 maximum1000 1/h• at AC-1 maximum1000 1/h• at AC-3 maximum1000 1/h• at AC-4 maximum300 1/h• at AC-4 maximum300 1/h• at C-1 maximum1000 1/h• at C-1 maximum300 1/h• at AC-4 maximum300 1/h• at C-1 maximum300 1/h• at C-1 maximum300 1/h• at S0 Hz6 kW• at 50 Hz0.8 1.1Aparent plokup power of magnet coil at AC0.8 1.1• at 50 Hz0.8 1.1<	— at 690 V at 60 °C rated value	40 kW
- at 230 V rated value4 kW- at 630 V rated value7.5 kW- at 630 V rated value11 kWOperating power for approx. 20000 operating cycles4 kC-4- at 400 V rated value3.5 kW- at 400 V rated value6 kW- at 630 V rated value6 kW- at 630 V rated value0.9 W- at 640 V rated value0.9 W- at 640 V rated value6 kW- at 640 V rated value6 kW- at 640 V rated value0.9 W- at 640 V rated value0.9 W- at 640 V rated value1000 1/h- at 640 V rated value1000 1/h- at 640 K rated value1000 1/h- at 640 rateman1000 1/h- at 640 rateman200 V- Control supply voltageAC- Control supply voltage rated200 V- Operating range factor control supply voltage rated8 k 1.1- Apparent pick-up power of magnet coil at AC6 k 1.1- at 50 Hz6 k 1.1- Apparent pick-up power of magnet coil at AC6 k 1.1- at 50 Hz6 k 1.1- at 50 Hz6.8 L 1.1- at 50 Hz	• at AC-2 at 400 V rated value	7.5 kW
Induction7.5 kW- at 600 V rated value7.5 kW- at 600 V rated value11 kWOperating power for approx. 200000 operating cycles at AC-45.5 kW• at 400 V rated value6. kWThermal short-time current limited to 10 s150 APower loss [V] at AC-3 at 400 V for rated value of the operating current per conductor0.9 W• at AC5.000 1/hOperating frequency0.9 W• at AC-1 maximum1.000 1/h• at AC-2 maximum1.000 1/h• at AC-2 maximum1.000 1/h• at AC-3 maximum1.000 1/h• at AC-4 maximum2.00 V/h• at AC-4 maximum2.000 1/h• at AC-4 maximum1.000 1/h• at AC-4 maximum1.000 1/h• at AC-4 maximum2.00 V/h• at 50 HzACControl Supply voltage of the control supply voltage• at 50 Hz0.8 1.1Apparent pick-up power of magnet coil at AC• at 50 Hz0.82• at 50 Hz0.82Apparent pick-up power of magnet coil at AC• at 50 Hz0.82Apparent pick-up power of magnet coil at AC• at 50 Hz0.82Apparent pick-up power of magnet coil at AC• at 50 Hz0.82Apparent pick-up power of magnet coil at AC• at 50 Hz0.82Apparent pick-up power of magnet coil at AC• at 50 Hz0.82Apparent pick-up power of magnet coil at AC• at 50 Hz0.82Apparent pick-up power of magnet coil at AC <th>● at AC-3</th> <th></th>	● at AC-3	
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Construint prover for approx. 200000 operating cycles at AC-4 Si KW • at 400 V rated value 3.5 kW • at 690 V rated value 6 kW Thermal short-time current limited to 10 s 0.9 W Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor 0.9 W No-load switching frequency 0.9 W • at AC 5 000 1/h Operating frequency 0.9 W • at AC-1 maximum 1 000 1/h • at AC-2 maximum 1 000 1/h • at AC-3 maximum 1 000 1/h • at AC-4 maximum 2 30 V Control supply voltage at AC 2 30 V • at 50 Hz 0.8 1.1 Apparent pick-up power of magnet coil at AC 0.8 1.1 Apparent pick-up power of magnet coil at AC 0.8 1.1 • at 50 Hz 0.82 Apparent holding power of magnet coil at AC 7.6 V/A • at 50 Hz 0.25	— at 400 V rated value	7.5 kW
at AC-4 at 400 V rated value at 600 V rated value at 600 V rated value bit 600 V rated v	— at 690 V rated value	11 kW
• at 400 V rated value3.5 kW• at 690 V rated value6 kWThemal short-time current limited to 10 s150 APower loss [V] at AC-3 at 400 V for rated value of the operating current per conductor0.9 WNo-load switching frequency-• at AC5 000 1/hOperating frequency-• at AC-1 maximum1 000 1/h• at AC-2 maximum1 000 1/h• at AC-3 maximum1 000 1/h• at AC-4 maximum300 1/h• at AC-4 maximum300 1/h• at AC-4 maximum200 V• at SO Hz rated value200 V• at SO Hz rated value65 V-A• at SO Hz65 V-A• at SO Hz65 V-A• at SO Hz0.82• at SO Hz0.25• at SO Hz0.25• at SO Hz9 38 ms	Operating power for approx. 200000 operating cycles	
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Thermal short-time current limited to 10 s Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor No-load switching frequency • at AC 0.9 W Operating frequency • at AC 0.9 W Control switching frequency • at AC-1 maximum • at AC-2 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3 maximum • at AC-4 maximum • at AC-4 maximum 1000 1/h • at AC-3 maximum • at AC-4 maximum 1000 1/h • at AC-4 maximum 1000 1/h 1000 1	• at 400 V rated value	3.5 kW
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor0.9 WNo-load switching frequency • at AC5000 1/hOperating frequency1000 1/h• at AC 1 maximum1 000 1/h• at AC-2 maximum1 000 1/h• at AC-3 maximum000 1/h• at AC-4 maximum300 1/h• at AC-4 maximum300 1/h• at AC-4 maximum2000 1/h• at AC-4 maximum300 1/h• at AC-4 maximum200 1/h• at AC-4 maximum200 1/h• at AC-4 maximum300 1/h• at AC-4 maximum230 V• at 50 Hz rated value230 V• at 50 Hz rated value0.8 1.1• at 50 Hz0.8 1.1• at 50 Hz0.8 1.1• at 50 Hz0.82• at 50 Hz0.25• at AC9 38 ms	• at 690 V rated value	6 kW
the operating current per conductor Image: current per conductor No-load switching frequency 5 000 1/h • at AC 5 000 1/h Operating frequency 1 000 1/h • at AC-1 maximum 1 000 1/h • at AC-2 maximum 1 000 1/h • at AC-3 maximum 1 000 1/h • at AC-4 maximum 300 1/h • at SO Hz rated value AC • at SO Hz rated value AC • at SO Hz rated value 0.8 1.1 • at SO Hz • at SO Hz • at SO Hz 0.82 • at SO Hz • at SO Hz • at SO Hz	Thermal short-time current limited to 10 s	150 A
No-load switching frequency• at AC5 000 1/hOperating frequency1 000 1/h• at AC-1 maximum1 000 1/h• at AC-2 maximum1 000 1/h• at AC-3 maximum1 000 1/h• at AC-4 maximum300 1/h• at AC-4 maximum300 1/h• at AC-4 maximum200 1/h• at SO HzAC• at SO Hz rated value230 V• at SO Hz rated value300 V• at SO Hz0.8 1.1• at SO Hz0.8 1.1• at SO Hz0.82• at SO Hz0.82• at SO Hz0.82• at SO Hz7.6 V/A• at SO Hz0.82• at SO Hz0.82• at SO Hz0.82• at SO Hz0.25• at SO Hz0.25• at SO Hz0.38 ms	Power loss [W] at AC-3 at 400 V for rated value of	0.9 W
• at AC5 000 1/hOperating frequency	the operating current per conductor	
Operating frequency I 000 1/h • at AC-1 maximum 1 000 1/h • at AC-2 maximum 1 000 1/h • at AC-2 maximum 1 000 1/h • at AC-3 maximum 300 1/h • at AC-4 maximum 230 V • otrol circuit/ Control 230 V • at 50 Hz rated value 0.8 1.1 • at 50 Hz 0.82 • at 50 Hz 0.25 • at 50 Hz 0.25	No-load switching frequency	
• at AC-1 maximum1 000 1/h• at AC-2 maximum1 000 1/h• at AC-3 maximum1 000 1/h• at AC-4 maximum300 1/h• at AC-4 maximumAC• at AC-4 maximumAC• at AC-4 maximum230 V• at 50 Hz rated value0.8 1.1• at 50 Hz0.8 1.1	• at AC	5 000 1/h
at AC - 2 maximum1 000 1/h• at AC - 3 maximum1 000 1/h• at AC - 4 maximum300 1/hControl circuit/ ControlACControl circuit/ Control230 VControl supply voltage at AC • at 50 Hz rated value230 VOperating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz0.8 1.1Apparent pick-up power of magnet coil at AC • at 50 Hz0.82Inductive power factor with closing power of the coil • at 50 Hz0.82Apparent holding power of magnet coil at AC • at 50 Hz0.82Apparent holding power of magnet coil at AC • at 50 Hz0.82Apparent holding power of magnet coil at AC • at 50 Hz0.82Apparent holding power of magnet coil at AC • at 50 Hz0.82Apparent holding power of magnet coil at AC • at 50 Hz0.82Apparent holding power of magnet coil at AC • at 50 Hz0.82Apparent holding power of magnet coil at AC • at 50 Hz0.25Closing delay • at AC9 38 ms	Operating frequency	
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Control supply voltage at AC• at 50 Hz rated value230 VOperating range factor control supply voltage rated value of magnet coil at AC0.8 1.1• at 50 Hz0.8 1.1Apparent pick-up power of magnet coil at AC • at 50 Hz65 V·A• at 50 Hz0.82Inductive power factor with closing power of the coil • at 50 Hz0.82Apparent holding power of magnet coil at AC • at 50 Hz7.6 V·A• at 50 Hz0.25Closing delay • at AC9 38 ms	Control circuit/ Control	
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Inductive power factor with the holding power of the coil • at 50 Hz 0.25 Closing delay • at AC 9 38 ms		7.01/ 4
coil		7.0 V'A
• at 50 Hz0.25Closing delay938 ms		
Closing delay • at AC 9 38 ms		0.25
• at AC 9 38 ms		
		9 38 ms
	Opening delay	
	• at AC	4 16 ms
Residual current of the electronics for control with	• at AC	
signal <0>	• at AC Arcing time	4 16 ms 10 10 ms

• at AC at 230 V maximum permissible	6 mA
• at DC at 24 V maximum permissible	16 mA
Auxiliary circuit Number of NC contacts	
for auxiliary contacts	1
— instantaneous contact Number of NO contacts	
• for auxiliary contacts	1
— instantaneous contact	
Operating current at AC-12 maximum	10 A
Operating current at AC-15	10 A
at 230 V rated value	
at 400 V rated value	3 A 2 A
at 500 V rated value	2 A 1 A
at 690 V rated value	
 Operating current at DC-12 • at 24 V rated value 	10 A
	6 A
• at 48 V rated value	6 A
• at 60 V rated value	
• at 110 V rated value	3 A
• at 125 V rated value	2 A
• at 220 V rated value	1A
• at 600 V rated value	0.15 A
Operating current at DC-13	
• at 24 V rated value	10 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 three-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 	
— at 110/120 V rated value	1 hp
— at 230 V rated value	3 hp
 for three-phase AC motor 	

— at 200/208 V rated value	3 hp
— at 220/230 V rated value	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
Short-circuit protection	
Design of the fuse link	
 for short-circuit protection of the main circuit 	
— with type of coordination 1 required	gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 63 A
 — with type of assignment 2 required 	gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 25 A
 for short-circuit protection of the auxiliary switch required 	fuse gG: 10 A
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
Mounting type	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	97 mm
Required spacing	
 for grounded parts 	
— at the side	6 mm
● for live parts	
— at the side	6 mm
Connections/Terminals	
Type of electrical connection	
 for main current circuit 	spring-loaded terminals
 for auxiliary and control current circuit 	spring-loaded terminals
Type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (1 10 mm²)
— single or multi-stranded	2x (1 10 mm²)
 finely stranded with core end processing 	2x (1 6 mm²)
 finely stranded without core end processing 	2x (1 6 mm²)
 at AWG conductors for main contacts 	2x (18 8)
Type of connectable conductor cross-sections	
 for auxiliary contacts 	

— single or multi-stranded	2x (0,5 2,5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²)
— finely stranded without core end	2x (0.5 2.5 mm²)
processing	
 at AWG conductors for auxiliary contacts 	2x (20 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 	100 FIT
Product function	
 Mirror contact acc. to IEC 60947-4-1 	Yes
T1 value for proof test interval or service life acc. to	20 у
IEC 61508	
Protection against electrical shock	finger-safe
Certificates/approvals	

Certificates/approvals

General Product	Approval				EMC
CCC	CSA		<u>KC</u>	EHC	C-Tick
Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates		Shipping Appr	oval
Type Examination	EG-Konf.	<u>Type Test</u> <u>Certificates/Test</u> <u>Report</u>	Special Test Certificate	ABS	BUREAU VERITAS
Shipping Approv	ral				other
GL	Lloyd's Register LRS	PRS	RINA	RMRS	<u>Confirmation</u>
other					
Environmental Confirmations	VDE				

⁻urther information

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

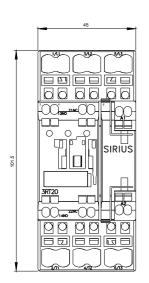
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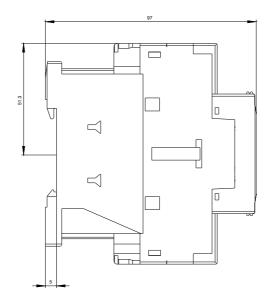
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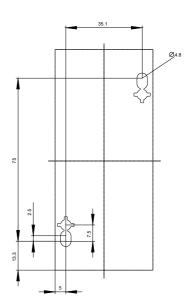
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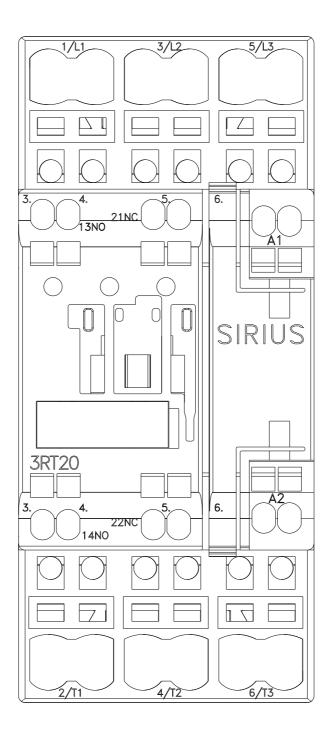
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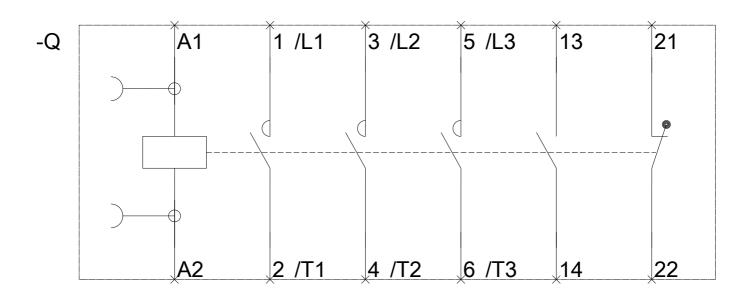
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