SIEMENS

Data sheet

3RT2017-1JB42



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 24 V DC, 0.7-1.25* Us, with integrated diode, auxiliary contacts: 1 NC, screw terminal, size: S00, suitable for PLC outputs, not expandable with auxiliary switch

product brand name	SIRIUS
product designation	Coupling contactor
product type designation	3RT2
General technical data	
size of contactor	S00
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 	1.5 W
 at AC in hot operating state per pole 	0.5 W
 without load current share typical 	2.8 W
type of calculation of power loss depending on pole	quadratic
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 protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	7.3g / 5 ms, 4.7g / 10 ms
shock resistance with sine pulse	
• at DC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (operating cycles)	
of contactor typical	30 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Lead - 7439-92-1
Weight	0.293 kg
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 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes

	-
global warming potential [CO2 eq] total	153 kg
global warming potential [CO2 eq] during manufacturing	1.42 kg
global warming potential [CO2 eq] during operation	152 kg
global warming potential [CO2 eq] after end of life	-0.305 kg
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 	22 A
value	
● at AC-1	
— up to 690 V at ambient temperature 40 $^\circ \text{C}$ rated value	22 A
— up to 690 V at ambient temperature 60 $^\circ C$ rated value	20 A
• at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
• at AC-3e	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
• at AC-4 at 400 V rated value	8.5 A
 at AC-5a up to 690 V rated value 	19.4 A
 at AC-5b up to 400 V rated value 	9.9 A
• at AC-6a	
 — up to 230 V for current peak value n=20 rated value 	7.2 A
 — up to 400 V for current peak value n=20 rated value 	7.2 A
 — up to 500 V for current peak value n=20 rated value 	7.2 A
 — up to 690 V for current peak value n=20 rated value 	6.7 A
● at AC-6a	
 — up to 230 V for current peak value n=30 rated value 	4.8 A
 — up to 400 V for current peak value n=30 rated value 	4.8 A
— up to 500 V for current peak value n=30 rated value	4.8 A
— up to 690 V for current peak value n=30 rated value	4.8 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm ²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	4.1 A
• at 690 V rated value	3.3 A
operational current	
 at 1 current path at DC-1 	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	2.1 A
— at 220 V rated value	0.8 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.7 A
 with 3 current paths in series at DC-1 	
— at 24 V rated value	20 A

	— at 60 V rated value	20 A
	— at 110 V rated value	20 A
	— at 220 V rated value	20 A
• at 1 current path at DC-3 at DC-5 20 A - at 20 V rade value 0.5 A - at 10 V rade value 0.15 A - at 10 V rade value 0.15 A - at 20 V rade value 0.35 A - at 20 V rade value 0.24 A - at 20 V rade value 0.25 KW - at 20 V rade value 0.5 KW - at 20 V rade value 5 KW - at 20 V rade value 2 KW	— at 440 V rated value	1.3 A
	— at 600 V rated value	1 A
	 at 1 current path at DC-3 at DC-5 	
	— at 24 V rated value	20 A
• with 2 current paths in sofies at DC-3 at DC-520 A- at 160 V rated value5 A- at 110 V rated value5 A- at 110 V rated value20 A- at 124 V rated value20 A- at 24 V rated value20 A- at 24 V rated value20 A- at 100 V rated value20 A- at 200 V rated value5.5 kW- at 200 V rated value5.5 kW- at 200 V rated value5.5 kW- at 500 V rated value5.5 kW- at 600 V rated value2.5 kW- at 600 V rated value2.6 kWA- at	— at 60 V rated value	0.5 A
	— at 110 V rated value	0.15 A
	 with 2 current paths in series at DC-3 at DC-5 	
	— at 24 V rated value	20 A
with 3 current paths in series at DC-3 at DC-5 - at 24 V ratie Value 20 A - at 110 V rate Value 20 A - at 20 V rate Value 20 A - at 110 V rate Value 20 A - at 20 V rate Value 15 A - at 400 V rate Value 02 A - at 200 V rate Value - at 200 V rate Value 55 KW - at 400 V rate Value 55 KW - at 200 V rate Value 20 KV - at 200 V rate Value 20 KV - at 200 V rate Value 20 KVA - at 200 V for current peak value n=20 rated Value 20 KVA - up to 500 V for current peak value n=20 rated Value 40 VAA - up to 500 V for current peak value n=30 rated Value 40 VAA - up to 500 V for current peak value n=30 rated Value 40 VAA - up to 500 V for current peak value n=30 rated Value 40 VAA - up to 500 V for current peak value n=30 rated Value 40 VAA - up to 500 V for current peak value n=30 rated Value 40 VAA - up to 500 V for current peak value n=30 rated Value	— at 60 V rated value	5 A
	— at 110 V rated value	0.35 A
	 with 3 current paths in series at DC-3 at DC-5 	
		20 A
operating power at AC-3 at AC-3 at 400 V rated value at 600 V rated value at 600 V rated value at AC-3e at AC-3e at AC-3e at AC-3e at AC-3e at 600 V rated value at 600 V rated value at AC-3e at AC-3e at AC-3e at AC-3e at AC-3e at 600 V rated value at 600 V for current peak value n=20 rated value at 600 V for current peak value n=20 rated value at 600 V for current peak value n=20 rated value by 10 400 V for current peak value n=30 rated value by KVA at 0 to 300 V for current peak value n=30 rated value by KVA ay to 630 V for current peak value n=30 rated value by KVA ay to 630 V for current peak value n=30 rated value thinded to 1 s witching at zero current maximum at bol 0 so witching at zero current maximum at bol 0 so switching at zero current maximum binited to 10		
• at AC-3 - at 230 V rated value 3 KW - at 600 V rated value 55 KW operating power for approx. 20000 operating cycles at AC-4 55 KW • at 600 V rated value 2 KW operating apparent power at AC-6a 2 kW • up to 200 V for current peak value n=20 rated value 2 kVA • up to 200 V for current peak value n=20 rated value 6 2 kVA • up to 200 V for current peak value n=20 rated value 3 kWA • up to 200 V for current peak value n=20 rated value 3 kVA • up to 200 V for current peak value n=20 rated value 3 kVA • up to 200 V for current peak value n=20 rated value 3 kVA • up to 500 V for current peak value n=30 rated value 3 kVA • up to 500 V for current peak value n=30 rated value 5 kVA		U.2 / Y
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at 500 V rated value5.5 kW at 680 V rated value5.5 kW at 230 V rated value3 kW at 400 V rated value5.5 kW at 500 V rated value5.5 kW at 500 V rated value5.5 kW at 500 V rated value5.5 kW at 690 V rated value2.5 kW at 690 V for current peak value n=20 rated value2.8 kVA up to 520 V for current peak value n=20 rated value6.2 kVA up to 500 V for current peak value n=20 rated value8 kVA operating apparent power at AC-6a		
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• at XC-3eImage: Section acc. to AC-1 rated value		
		5.5 KW
	— at 400 V rated value	5.5 kW
operating power for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value • at 690 V rated value • up to 230 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 690 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • 1.9 kVA • up to 500 V for current peak value n=30 rated value • 1.9 kVA • up to 500 V for current maximum • 1.9 kVA • up to 500 V for current maximum • 10 for 1 s switching at zero current maximum • 10 kGA, Use m	— at 500 V rated value	5.5 kW
4 at 400 V rated value 2 kW • at 690 V rated value 2.5 kW operating apparent power at AC-6a 2.8 kVA • up to 230 V for current peak value n=20 rated value 2.8 kVA • up to 500 V for current peak value n=20 rated value 4.9 kVA • up to 500 V for current peak value n=20 rated value 6.2 kVA • up to 630 V for current peak value n=20 rated value 8 kVA • up to 630 V for current peak value n=20 rated value 8 kVA operating apparent power at AC-6a 1.9 kVA • up to 630 V for current peak value n=30 rated value 1.9 kVA • up to 600 V for current peak value n=30 rated value 3.3 kVA • up to 600 V for current peak value n=30 rated value 5.7 kVA • up to 600 V for current peak value n=30 rated value 5.7 kVA • up to 600 V for current peak value n=30 rated value 5.7 kVA • up to 600 V for current maximum 200 A; Use minimum cross-section acc. to AC-1 rated value • limited to 1 s switching at zero current maximum 200 A; Use minimum cross-section acc. to AC-1 rated value • limited to 10 s switching at zero current maximum 61 A; Use minimum cross-section acc. to AC-1 rated value • limited to 10 s switching at zero current maximum 61 A; Use minimum cross-section	— at 690 V rated value	5.5 kW
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• up to 690 V for current peak value n=30 rated value5.7 kVAshort-time withstand current in cold operating state up to 40 °C200 A; Use minimum cross-section acc. to AC-1 rated value• limited to 1 s switching at zero current maximum200 A; Use minimum cross-section acc. to AC-1 rated value• limited to 1 s switching at zero current maximum123 A; Use minimum cross-section acc. to AC-1 rated value• limited to 10 s switching at zero current maximum96 A; Use minimum cross-section acc. to AC-1 rated value• limited to 30 s switching at zero current maximum61 A; Use minimum cross-section acc. to AC-1 rated value• limited to 60 s switching at zero current maximum61 A; Use minimum cross-section acc. to AC-1 rated value• at DC10 000 1/h• at AC-1 maximum1 000 1/h• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-4 maximum750 1/h• at AC-4 maximum250 1/h		
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40 °C• limited to 1 s switching at zero current maximum200 A; Use minimum cross-section acc. to AC-1 rated value• limited to 5 s switching at zero current maximum123 A; Use minimum cross-section acc. to AC-1 rated value• limited to 10 s switching at zero current maximum96 A; Use minimum cross-section acc. to AC-1 rated value• limited to 30 s switching at zero current maximum96 A; Use minimum cross-section acc. to AC-1 rated value• limited to 60 s switching at zero current maximum61 A; Use minimum cross-section acc. to AC-1 rated value• limited to 60 s switching at zero current maximum61 A; Use minimum cross-section acc. to AC-1 rated value• at DC10 000 1/h• at AC-1 maximum1 000 1/h• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-4 maximum250 1/h	 up to 690 V for current peak value n=30 rated value 	5.7 kVA
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• limited to 5 s switching at zero current maximum123 A; Use minimum cross-section acc. to AC-1 rated value• limited to 10 s switching at zero current maximum96 A; Use minimum cross-section acc. to AC-1 rated value• limited to 30 s switching at zero current maximum74 A; Use minimum cross-section acc. to AC-1 rated value• limited to 60 s switching at zero current maximum61 A; Use minimum cross-section acc. to AC-1 rated value• at DC10 000 1/h• at DC10 000 1/h• at AC-1 maximum1 000 1/h• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-4 maximum250 1/h		200 At Llos minimum gross section and to AC 4 rated value
Imited to 10 s switching at zero current maximum96 A; Use minimum cross-section acc. to AC-1 rated valueImited to 30 s switching at zero current maximum74 A; Use minimum cross-section acc. to AC-1 rated valueImited to 60 s switching at zero current maximum61 A; Use minimum cross-section acc. to AC-1 rated valueno-load switching frequency61 A; Use minimum cross-section acc. to AC-1 rated valueat DC10 000 1/hoperating frequency1 000 1/hat AC-1 maximum1 000 1/hat AC-2 maximum750 1/hat AC-3 maximum750 1/hat AC-3e maximum750 1/hat AC-4 maximum250 1/h	-	
• limited to 30 s switching at zero current maximum74 A; Use minimum cross-section acc. to AC-1 rated value• limited to 60 s switching at zero current maximum61 A; Use minimum cross-section acc. to AC-1 rated valueno-load switching frequency10 000 1/h• at DC10 000 1/hoperating frequency1 000 1/h• at AC-1 maximum1 000 1/h• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-4 maximum250 1/h	-	
• limited to 60 s switching at zero current maximum61 A; Use minimum cross-section acc. to AC-1 rated valueno-load switching frequency10 000 1/h• at DC10 000 1/hoperating frequency1 000 1/h• at AC-1 maximum1 000 1/h• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-4 maximum250 1/h	-	
no-load switching frequency10 000 1/h• at DC10 000 1/hoperating frequency	-	
• at DC 10 000 1/h operating frequency 1 000 1/h • at AC-1 maximum 1 000 1/h • at AC-2 maximum 750 1/h • at AC-3 maximum 750 1/h • at AC-3 maximum 750 1/h • at AC-4 maximum 250 1/h	•	or A; use minimum cross-section acc. to AC-1 rated value
operating frequency1 000 1/h• at AC-1 maximum1 000 1/h• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3e maximum750 1/h• at AC-4 maximum250 1/h		40.000 4 //-
• at AC-1 maximum 1 000 1/h • at AC-2 maximum 750 1/h • at AC-3 maximum 750 1/h • at AC-3e maximum 750 1/h • at AC-3e maximum 750 1/h • at AC-4 maximum 250 1/h		10 000 1/h
• at AC-2 maximum 750 1/h • at AC-3 maximum 750 1/h • at AC-3e maximum 750 1/h • at AC-4 maximum 250 1/h		4 222 4 1
• at AC-3 maximum 750 1/h • at AC-3e maximum 750 1/h • at AC-4 maximum 250 1/h		
• at AC-3e maximum 750 1/h • at AC-4 maximum 250 1/h		
• at AC-4 maximum 250 1/h		
Control circuit/ Control		250 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 	0.7
• full-scale value	1.25
design of the surge suppressor	diode
closing power of magnet coil at DC	2.8 W
holding power of magnet coil at DC	2.8 W
closing delay	
• at DC	25 130 ms
opening delay	
• at DC	38 65 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous	1
contact	
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value	10 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	3 A
at 125 V rated value	2 A
at 220 V rated value	1A
at 600 V rated value	0.15 A
operational current at DC-13	0.13 A
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 3-phase AC motor	
• at 480 V rated value	11 A
• at 600 V rated value	11 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	0.5 hp
— at 230 V rated value	2 hp
• for 3-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
— at 575/600 V rated value	10 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
design of the fuse link	
 for short-circuit protection of the main circuit 	
 with type of coordination 1 required 	gG: 50A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)

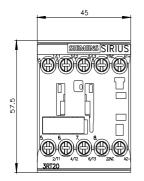
- with type of assignment 2 required

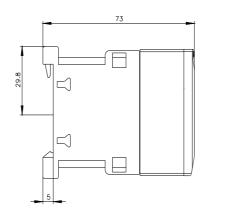
• for short-circuit protection of the auxiliary switch required

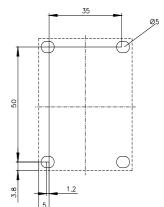
gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) gG: 10 A (500 V, 1 kA)

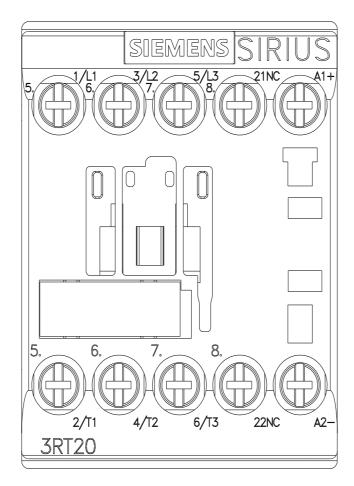
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method side-by-side mounting	Yes
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	58 mm
width	45 mm
depth	73 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	U mm
type of electrical connection	
for main current circuit	paraw type terminale
for auxiliary and control circuit	screw-type terminals
at contactor for auxiliary contacts	screw-type terminals
of magnet coil	Screw-type terminals
type of connectable conductor cross-sections	Screw-type terminals
for main contacts	
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
— solid or stranded	2x (0.5 1,5 mm²), 2x (0.75 2,5 mm²), 2x 4 mm²
 — finely stranded with core end processing 	2x (0,5 1,5 mm ²), 2x (0,75 2,5 mm ²)
for AWG cables for main contacts	2x (0.5 15) finit), 2x (0.7 5 2.5 finit) 2x (20 16), 2x (18 14), 2x 12
	24 (20 10), 24 (10 14), 24 12
e solid	0.5 4 mm²
	0.5 4 mm²
 stranded finely stranded with core and processing 	0.5 4 mm ²
finely stranded with core end processing connectable conductor cross section for auxiliary contacts	0.0 2.0 mm
connectable conductor cross-section for auxiliary contacts solid or stranded 	0.5 4 mm²
	0.5 4 mm²
finely stranded with core end processing	0.0 2.0 mm
type of connectable conductor cross-sections	
for auxiliary contacts colid or stranded	$2 \times (0.5 - 1.5 \text{ mm}^2) 2 \times (0.75 - 0.5 \text{ mm}^2) 2 \times 4 \text{ mm}^2$
 — solid or stranded finally stranded with core and processing 	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²), 2x 4 mm ²
— finely stranded with core end processing	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)
for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 2x 12
AWG number as coded connectable conductor cross section	
• for main contacts	2012
 for auxiliary contacts 	20 12
Safety related data	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
 suitable for safety function 	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a

			8		
est wear-related servi	ce life necessary	Ye			
proportion of dangero	us failures				
	rate according to SN 319				
 with high demand 	I rate according to SN 31				
	emand rate according to		00 000		
ailure rate [FIT] with I 31920	ow demand rate accord	ing to SN 10) FIT		
SO 13849					
levice type according	to ISO 13849-1	3			
	ording to ISO 13849-2 n		S		
EC 61508			•		
	ording to IEC 61508-2	Tv	be A		
Electrical Safety	0	,			
protection class IP on	the front according to I	EC 60529 IP:	20		
ouch protection on th	e front according to IEC	C 60529 fin	ger-safe, for vertical contac	t from the front	
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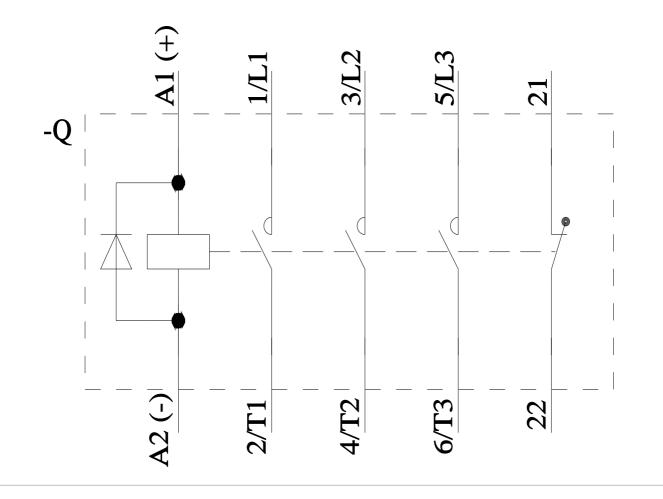








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