3RT2017-1BB41-1AA0

Data sheet



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 24 V DC, auxiliary contacts: 1 NO, screw terminal, size: S00, upright mounting position

product brand name	SIRIUS	
product designation	Power contactor	
product type designation	3RT2	
General technical data		
size of contactor	S00	
product extension		
 function module for communication 	No	
auxiliary switch	Yes	
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	4 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 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	
 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	

	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 °C rated value 	22 A
— up to 690 V at ambient temperature 60 °C rated	20 A
value	2077
• 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	4 mm²
value	4 mm²
	4 mm²
value operational current for approx. 200000 operating cycles at	4 mm² 4.1 A
value operational current for approx. 200000 operating cycles at AC-4	
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value	4.1 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value	4.1 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current	4.1 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1	4.1 A 3.3 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value	4.1 A 3.3 A 20 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value	4.1 A 3.3 A 20 A 20 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value — at 600 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value • with 2 current paths in series at DC-1	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value — at 600 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 60 V rated value — at 110 V rated value — at 110 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 20 A 21 A 20 A
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value • at 10 V rated value • at 220 V rated value — at 24 V rated value — at 24 V rated value — at 24 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 21 A 20
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value — at 24 V rated value — at 24 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 440 V rated value — at 440 V rated value — at 440 V rated value — at 4600 V rated value — at 600 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A 2
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 600 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 440 V rated value — at 60 V rated value — at 220 V rated value — at 60 V rated value — at 24 V rated value — at 24 V rated value — at 24 V rated value — at 440 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value — at 600 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A 2
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value • at 110 V rated value • at 20 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 10 V rated value — at 60 V rated value — at 100 V rated value — at 220 V rated value — at 220 V rated value — at 240 V rated value — at 240 V rated value — at 600 V rated value — at 600 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A 2
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 24 V rated value — at 24 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 60 V rated value — at 110 V rated value — at 110 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 600 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 220 V rated value — at 24 V rated value — at 24 V rated value — at 600 V rated value — at 24 V rated value — at 24 V rated value — at 20 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A 2
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 24 V rated value — at 24 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 60 V rated value — at 110 V rated value — at 110 V rated value	4.1 A 3.3 A 20 A 20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A

— at 24 V rated value	20 A
— 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
— 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 	
— 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	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
operating power	
 at AC-2 at 400 V rated value 	5.5 kW
• at AC-3	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	5.5 kW
• at AC-3e	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	5.5 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	2 kW
at 690 V rated value	2.5 kW
operating apparent power at AC-6a	Z.J KVV
	2.8 kVA
• up to 230 V for current peak value n=20 rated value	
• up to 400 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 690 V for current peak value n=20 rated value	8 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	1.9 kVA
 up to 400 V for current peak value n=30 rated value 	3.3 kVA
 up to 500 V for current peak value n=30 rated value 	4.1 kVA
• up to 690 V for current peak value n=30 rated value	5.7 kVA
short-time withstand current in cold operating state up to 40 $^{\circ}\text{C}$	
 limited to 1 s switching at zero current maximum 	200 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	123 A; Use minimum cross-section acc. to AC-1 rated value
limited to 10 s switching at zero current maximum	96 A; Use minimum cross-section acc. to AC-1 rated value
limited to 30 s switching at zero current maximum	74 A; Use minimum cross-section acc. to AC-1 rated value
limited to 50 s switching at zero current maximum limited to 60 s switching at zero current maximum	61 A; Use minimum cross-section acc. to AC-1 rated value
	OTTY, OSC THIRITIANT GIOSS-SCOULDT ACC. TO NO-1 Tated Value
no-load switching frequency	40,000,4/b
• at DC	10 000 1/h
operating frequency	4 000 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-4 maximum	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 initial value	0.8
	

full-scale value	1.1
closing power of magnet coil at DC	4 W
holding power of magnet coil at DC	4 W
closing delay	
• at DC	30 100 ms
opening delay	
• at DC	7 13 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NO contacts for auxiliary contacts instantaneous	1
contact	40 A
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 at 500 V rated value	2 A
at 690 V rated value at 690 V rated value	1 A
operational current at DC-12	TA .
at 24 V rated value	10 A
	10 A 6 A
at 48 V rated value at 60 V rated value	
at 60 V rated value at 110 V rated value	6 A 3 A
• at 110 V rated value	
at 125 V rated value at 220 V rated value	2 A
at 220 V rated value	1 A
at 600 V rated value	0.15 A
operational current at DC-13	40.4
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 UL/CSA ratings	1 faulty switching per 100 million (17 V, 1 mA)
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	11 A
at 600 V rated value at 600 V rated value	11 A
vielded mechanical performance [hp]	IIA
• for single-phase AC motor	
— at 110/120 V rated value	0.5 hp
— at 110/120 V rated value — at 230 V rated value	2 hp
for 3-phase AC motor	2 Hp
— at 200/208 V rated value	3 hn
— at 200/208 V rated value — at 220/230 V rated value	3 hp
— at 220/230 V rated value — at 460/480 V rated value	7.5 hp
— at 460/480 V rated value — at 575/600 V rated value	7.5 np 10 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	7,000 / 1,000
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	gG: 20A (690V, 100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	30 (000 +, + 10)
mounting position	standing, on horizontal mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	58 mm
width	45 mm
maur	TO HILL

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
	10 111111
for live parts — forwards	10
	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
 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 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 mm²), 2x (0.75 2.5 mm²)
connectable conductor cross-section for main contacts	
• solid	0.5 4 mm²
• stranded	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm ²
type of connectable conductor cross-sections	
for auxiliary contacts	
— 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 mm²), 2x (0.75 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 2x 12
AWG number as coded connectable conductor cross	ZA (20 10), ZA (10 14), ZA 12
section	
for main contacts	20 12
for auxiliary contacts	20 12
Safety related data	
product function	
mirror contact according to IEC 60947-4-1	Yes; with 3RH29
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	
with low demand rate according to SN 31920	40 %
with high demand rate according to SN 31920	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to SN 31920	20 a
61508	Σ0 α
	IP20
protection class IP on the front according to IEC 60529	
· · · · · · · · · · · · · · · · · · ·	finger-safe, for vertical contact from the front
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
touch protection on the front according to IEC 60529 suitability for use	
touch protection on the front according to IEC 60529	Yes



Confirmation





<u>KC</u>



	Functional
EMC	Safety/Safety of Ma-
	chinery

Declaration of Conformity

Test Certificates



Type Examination Certificate





Type Test Certificates/Test Report Special Test Certificate

Test Certificates

Marine / Shipping

Miscellaneous











Marine / Shipping

other

Railway

Dangerous Good





Confirmation



Vibration and Shock

Transport Information

Environment

Environmental Confirmations

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RT2017-1BB41-1AA0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-1BB41-1AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1BB41-1AA0

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

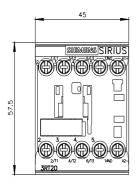
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-1BB41-1AA0&lang=en

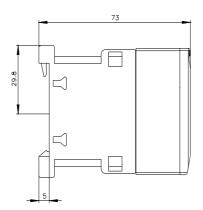
Characteristic: Tripping characteristics, I²t, Let-through current

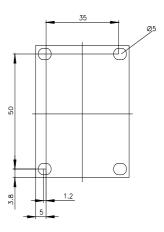
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1BB41-1AA0/char

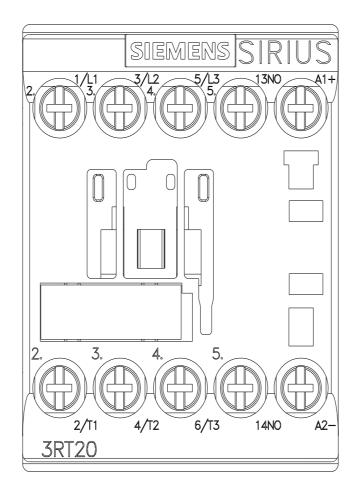
Further characteristics (e.g. electrical endurance, switching frequency)

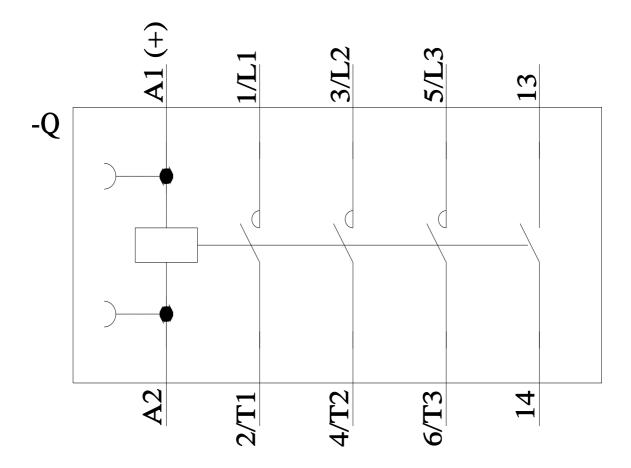
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-1BB41-1AA0&objecttype=14&gridview=view1











last modified: 2/10/2023 🖸