SIEMENS

Data sheet 3RT2017-2AD01



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 42 V AC, 50/60 Hz, auxiliary contacts: 1 NO, spring-loaded terminal, size: S00

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	5.7 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 AC	7,3g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	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 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	0.271
• at AC-3	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 400 V rated value — at 500 V rated value	
	5.5 kW
— at 690 V rated value	5.5 kW
• at AC-3e	0.134/
— 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
up to 230 V for current peak value n=20 rated value	2.8 kVA
	4.9 kVA
up to 400 V for current peak value n=20 rated value	6.2 kVA
up to 500 V for current peak value n=20 rated value	
• up to 690 V for current peak value n=20 rated value	8 kVA
operating apparent power at AC-6a	4.010//
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 °C	
limited to 1 s switching at zero current maximum	200 A; Use minimum cross-section acc. to AC-1 rated value
Ilmitted to 1's switching at zero current maximum Ilmitted to 5's switching at zero current maximum	123 A; Use minimum cross-section acc. to AC-1 rated value
Ilmitted to 3 s switching at zero current maximum Imitted 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 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
no-load switching frequency	orri, esc minimum cross-section acc. to Ac-1 rateu value
at AC	10 000 1/h
	10 000 1/11
operating frequency • at AC-1 maximum	1 000 1/h
at AC-1 maximum at AC-2 maximum	750 1/h
• at AC 3a maximum	750 1/h
at AC-3e maximum	750 1/h
at AC-4 maximum Control circuit/ Control	250 1/h
Control circuit/ Control	10
type of voltage of the control supply voltage	AC
control supply voltage at AC	
• at 50 Hz rated value	42 V
at 60 Hz rated value	42 V
operating range factor control supply voltage rated value of	
magnet coil at AC	0.0 4.4
● at 50 Hz	0.8 1.1

● at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	37 VA
• at 60 Hz	33 VA
inductive power factor with closing power of the coil	
● at 50 Hz	0.8
● at 60 Hz	0.75
apparent holding power of magnet coil at AC	
● at 50 Hz	5.7 VA
● at 60 Hz	4.4 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
● at 60 Hz	0.25
closing delay	
• at AC	9 35 ms
opening delay	
• at AC	4 15 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	
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	1 A
at 600 V rated value	0.15 A
	0.15 A
operational current at DC-13 • at 24 V rated value	10.4
	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 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	
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 DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	70 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	40
— forwards	10 mm
— upwards	10 mm
— at the side — downwards	6 mm
	10 mm
for live parts— forwards	10 mm
	10 mm
— upwards — downwards	10 mm
— at the side	6 mm
Connections/ Terminals	C Hilli
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	. 0 //
• solid	2x (0.5 4 mm²)
solid or stranded	2x (0,5 4 mm²)
 finely stranded with core end processing 	2x (0.5 2.5 mm²)
 finely stranded without core end processing 	2x (0.5 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
finely stranded without 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 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 4 mm²)
— finely stranded with core end processing	2x (0.5 2.5 mm²)
— finely stranded without core end processing	2x (0.5 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 12)
AWG number as coded connectable conductor cross section	
• for main contacts	20 12
for auxiliary contacts	20 12
Safety related data	
product function	

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 IEC 61508	20 a
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
suitability for use	
 safety-related switching OFF 	Yes
Santification approvals	

Certificates/ approvals

General Product Approval



Confirmation





<u>KC</u>



Functional EMC Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination Certificate





Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping





Confirmation









Marine / Shipping

other



Confirmation

Vibration and Shock

Railway

Environmental Confirmations

Environment

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=3RT2017-2AD01

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2AD01

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AD01

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

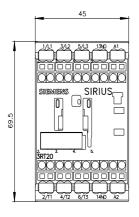
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2AD01&lang=en

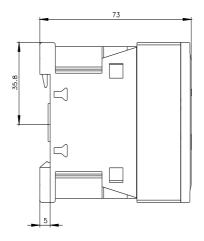
Characteristic: Tripping characteristics, I2t, Let-through current

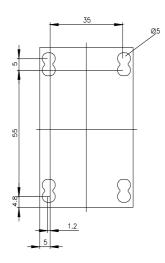
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AD01/char

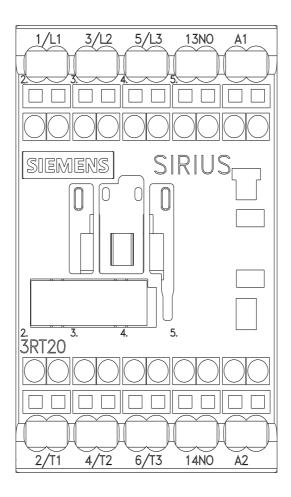
Further characteristics (e.g. electrical endurance, switching frequency)

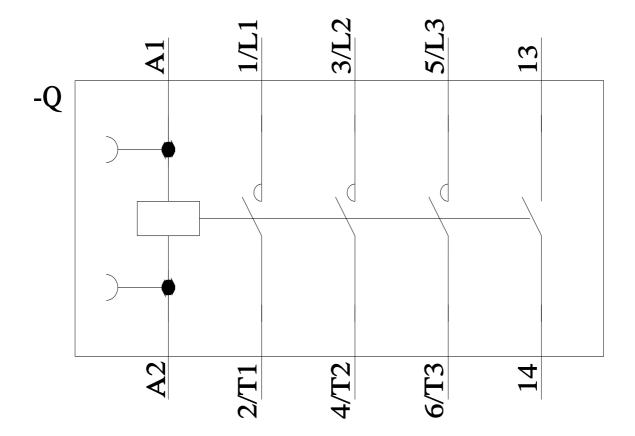
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2AD01&objecttype=14&gridview=view1











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