SIEMENS

Data sheet 3RT2027-2AP00



Power contactor, AC-3 32 A, 15 kW / 400 V 1 NO + 1 NC, 230 V AC, 50 Hz 3-pole, size S0 Spring-type terminals

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S0
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	8.1 W
• per pole	2.7 W
power loss [W] for rated value of the current without load current share typical	9.8 W
surge voltage resistance	
of main circuit rated value	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	8,3g / 5 ms, 5,3g / 10 ms
shock resistance with sine pulse	
• at AC	13,5g / 5 ms, 8,3g / 10 ms
mechanical service life (switching cycles)	
 of contactor typical 	10 000 000
 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 acc. to IEC 81346-2	Q
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature during operation	-25 +60 °C
ambient temperature during storage	-55 +80 °C
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
operational current	

 at AC-1 at 400 V at ambient temperature 40 °C rated value at AC-1 	50 A
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	50 A
 — up to 690 V at ambient temperature 60 °C rated value 	42 A
• at AC-3	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
at AC-4 at 400 V rated value	22 A
at AC-5a up to 690 V rated value	44 A
at AC-5b up to 400 V rated value	26.5 A
• at AC-6a	25.57
up to 230 V for current peak value n=20 rated value	30.8 A
— up to 400 V for current peak value n=20 rated value	30.8 A
— up to 500 V for current peak value n=20 rated value	27 A
 up to 690 V for current peak value n=20 rated value at AC-6a 	21 A
— up to 230 V for current peak value n=30 rated value	20.5 A
 up to 400 V for current peak value n=30 rated value 	20.5 A
— up to 500 V for current peak value n=30 rated value	18 A
— up to 690 V for current peak value n=30 rated value	18 A
minimum cross-section in main circuit at maximum AC-1	10 mm²
rated value	
operational current for approx. 200000 operating cycles at AC-4	
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value	12 A
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value	12 A 12 A
operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value operational current	
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	12 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	12 A 35 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 110 V rated value	12 A 35 A 4.5 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 110 V rated value — at 220 V rated value	12 A 35 A 4.5 A 1 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 110 V rated value — at 220 V rated value — at 440 V rated value	12 A 35 A 4.5 A 1 A 0.4 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 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value	12 A 35 A 4.5 A 1 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 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	35 A 4.5 A 1 A 0.4 A 0.25 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 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	35 A 4.5 A 1 A 0.4 A 0.25 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 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 110 V rated value — at 110 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 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 110 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 • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 5 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 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 110 V rated value — at 220 V rated value — at 24 V rated value — at 24 V rated value — at 24 V rated value — at 140 V rated value — at 440 V rated value — at 440 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 36 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 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 110 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	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 5 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 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 110 V rated value — at 220 V rated value — at 440 V rated value — at 440 V rated value — at 110 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value — at 600 V rated value • with 3 current paths in series at DC-1	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 1 A 0.8 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 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 110 V rated value — at 110 V rated value — at 440 V rated value — at 600 V rated value — at 220 V rated value — at 220 V rated value — at 440 V rated value — at 440 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 5 A 1 A 0.8 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 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 110 V rated value — at 440 V rated value — at 600 V rated value — at 220 V rated value — at 220 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 — at 110 V rated value — at 24 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 5 A 1 A 0.8 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 110 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 600 V rated value — at 200 V rated value — at 24 V rated value — at 24 V rated value — at 440 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 — at 24 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 220 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 5 A 1 A 0.8 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 110 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 220 V rated value — at 24 V rated value — at 440 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 440 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 35 A 35 A 35 A 2.9 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 110 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 220 V rated value — at 24 V rated value — at 24 V rated value — at 220 V rated value — at 440 V rated value — at 440 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 — at 600 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 5 A 1 A 0.8 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 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 110 V rated value — at 110 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 24 V rated value — at 440 V rated value — at 440 V rated value — at 440 V rated value — at 600 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 35 A 35 A 35 A 2.9 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 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 110 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 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 440 V rated value — at 440 V rated value — at 440 V rated value — at 600 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 36 A 37 A 38
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 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 110 V rated value — at 110 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 24 V rated value — at 440 V rated value — at 440 V rated value — at 440 V rated value — at 600 V rated value	35 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 35 A 35 A 35 A 2.9 A



operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz	0.8 1.1 77 V·A
value of magnet coil at AC • at 50 Hz	0.8 1.1
value of magnet coil at AC	0.8 1.1
at 50 Hz rated value	230 V
control supply voltage at AC	
type of voltage of the control supply voltage	AC
Control circuit/ Control	
• at AC-4 maximum	250 1/h
• at AC-3 maximum	750 1/h
• at AC-2 maximum	750 1/h
• at AC-1 maximum	1 000 1/h
operating frequency	
• at AC	5 000 1/h
no-load switching frequency	
 limited to 60 s switching at zero current maximum 	152 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	186 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	260 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	395 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 1 s switching at zero current maximum 	499 A; Use minimum cross-section acc. to AC-1 rated value
up to 40 °C	
short-time withstand current in cold operating state	
up to 690 V for current peak value n=30 rated value	21.5 kV·A
up to 500 V for current peak value n=30 rated value	15.5 kV·A
up to 400 V for current peak value n=30 rated value	14.2 kV·A
• up to 230 V for current peak value n=30 rated value	8.1 kV·A
operating apparent power at AC-6a	
up to 690 V for current peak value n=20 rated value	25 kV·A
• up to 500 V for current peak value n=20 rated value	23.3 kV·A
 up to 400 V for current peak value n=20 rated value 	21.3 kV·A
• up to 230 V for current peak value n=20 rated value	12.2 kV·A
operating apparent power at AC-6a	
at 690 V rated value	10.3 kW
at 400 V rated value	6 kW
at AC-4	
operating power for approx. 200000 operating cycles	TO.O KVV
— at 690 V rated value — at 690 V rated value	18.5 kW
— at 500 V rated value — at 500 V rated value	15 kW
— at 400 V rated value	7.5 kW
at AC-3 — at 230 V rated value	7.5 kW
• at AC-3	
operating power	V.U A
— at 600 V rated value	0.6 A
— at 440 V rated value — at 440 V rated value	0.6 A
at 110 V rated value at 220 V rated value	35 A 10 A
— at 24 v rated value — at 110 V rated value	35 A
with 3 current paths in series at DC-3 at DC-5 — at 24 V rated value	35 A
at 600 V rated value with 3 current paths in series at DC-3 at DC-5	0.10 A
— at 440 V rated value — at 600 V rated value	0.16 A
— at 440 V rated value — at 440 V rated value	0.27 A
— at 110 V rated value — at 220 V rated value	3 A
— at 110 V rated value	15 A
— at 24 V rated value	35 A
 — at 600 V rated value with 2 current paths in series at DC-3 at DC-5 	0.00 A
	0.09 A 0.06 A
— at 220 V rated value — at 440 V rated value	
	1 A



● at 50 Hz	0.82
apparent holding power of magnet coil at AC	
● at 50 Hz	9.8 V·A
inductive power factor with the holding power of the coil	
● at 50 Hz	0.25
closing delay	
• at AC	8 40 ms
opening delay	
• at AC	4 16 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	1
number of NO contacts for auxiliary contacts instantaneous contact	1
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
operational 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 3-phase AC motor	
at 480 V rated value	27 A
• at 600 V rated value	27 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	2 hp
— at 230 V rated value	5 hp
• for 3-phase AC motor	
— at 200/208 V rated value	10 hp
 at 220/230 V rated value 	10 hp
 at 460/480 V rated value 	20 hp
— at 575/600 V rated value	25 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
design of the fuse link	
 for short-circuit protection of the main circuit 	
— with type of coordination 1 required	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)



— with type of assignment 2 required

gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)

• for short-circuit protection of the auxiliary switch required

gG: 10 A (500 V, 1 kA)

for snort-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
mounting position	forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail
a aida by aida mayating	according to DIN EN 60715 Yes
side-by-side mounting height	102 mm
width	45 mm
depth	97 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	
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	
— solid	2x (1 10 mm²)
— solid or 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 cables for main contacts	2x (18 8)
connectable conductor cross-section for main contacts	
• solid	1 10 mm²
• stranded	1 10 mm²
 finely stranded with core end processing 	1 6 mm²
finely stranded without core end processing	1 6 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 2.5 mm²
 finely stranded with core end processing 	0.5 1.5 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 2.5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²)
— finely stranded without core end processing	2x (0.5 2.5 mm²)
at AWG cables for auxiliary contacts	2x (20 14)



18 ... 8 • AWG number as coded connectable conductor cross section for main contacts • AWG number as coded connectable conductor 20 ... 14 cross section for auxiliary contacts 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 y **IEC 61508** protection class IP on the front acc. to IEC 60529 IP20 touch protection on the front acc. to IEC 60529 finger-safe, for vertical contact from the front

Yes

Certificates/ approvals

General Product Approval

suitability for use safety-related switching OFF

EMC













Declaration of Conformity

Test Certificates

Marine / Shipping

Miscellaneous



Special Test Certificate

Type Test Certificates/Test Report





Marine / Shipping











Confirmation

other

other



Confirmation

Further information

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=3RT2027-2AP00

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-2AP00

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

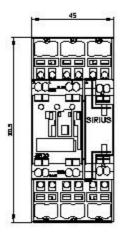
https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2AP00

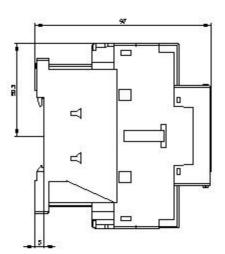
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

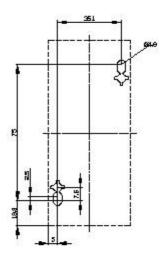
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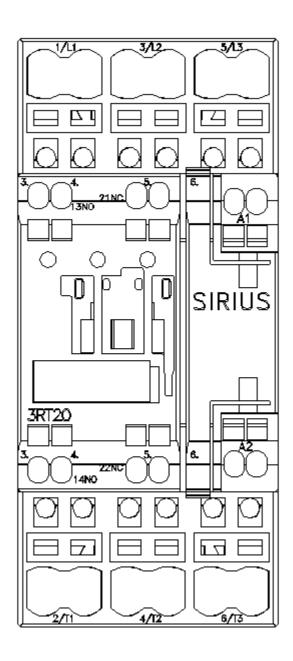


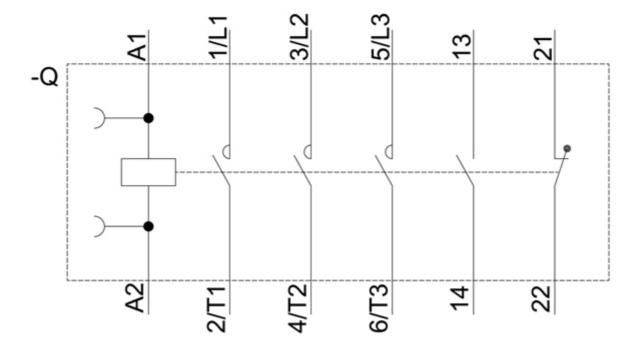
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-2AP00&objecttype=14&gridview=view1











last modified: 12/21/2020 🖸