SIEMENS

Data sheet 3RT2017-1AP01



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 230 V AC, 50/60 Hz, auxiliary contacts: 1 NO, screw 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	1.5 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 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 °C rated	22 A
value	20. A
 up to 690 V at ambient temperature 60 °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	0.174
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
	6.7 A
— at 690 V rated value	
at AC-4 at 400 V rated value at AC-5 aug to 600 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 mm²
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 110 v rated value — at 220 V rated value	1.6 A
	0.8 A
— at 440 V rated value	
— at 600 V rated value	0.7 A
with 3 current paths in series at DC-1	00.4
— 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 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
— 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	2 144/
— 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 400 V rated value at 690 V rated value	2.5 kW
	Z.J KVV
 operating apparent power at AC-6a 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	4.0.1979
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
Ilmited to 1 s switching at zero current maximum Ilmited 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
-	61 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 60 s switching at zero current maximum no-load switching fraguency	OTA, OSC IIIIIIIIIIIIII GOSS-SCOIIOII ACO. IO AC-TTAIEU VAIUE
no-load switching frequency	10 000 1/h
• at AC	10 000 1/h
operating frequency	4 000 4/5
• 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	AC
control supply voltage at AC	
• at 50 Hz rated value	230 V
at 60 Hz rated value	230 V
operating range factor control supply voltage rated value of	
magnet coil at AC	00 44
● 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 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	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	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		
— forwards	10 mm 10 mm		
— upwards — at the side	6 mm		
— at the side — downwards	10 mm		
for live parts	TV TITLE		
— forwards	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 section	00 40		
• for main contacts	20 12		
• for auxiliary contacts	20 12		
Safety related data			
product function	W W 001100		
mirror contact according to IEC 60947-4-1	Yes; with 3RH29		
suitability for use safety-related switching OFF	Yes		
B10 value with high demand rate according to SN 31920	1 000 000		
proportion of dangerous failures	40.07		
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	
0		

Certificates/ approvals

General Product Approval



Confirmation





<u>KC</u>





Type Examination Certificate





Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping	other	Railway	Environment
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Confirmation



Confirmation

Vibration and Shock

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=3RT2017-1AP01

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-1AP01

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1AP01

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

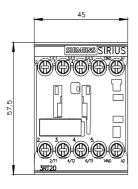
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-1AP01&lang=en

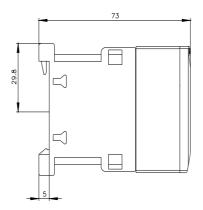
Characteristic: Tripping characteristics, I²t, Let-through current

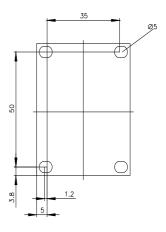
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1AP01/char

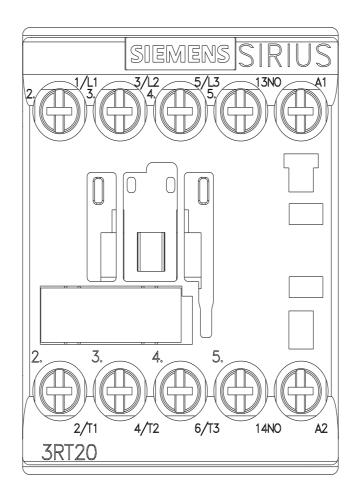
Further characteristics (e.g. electrical endurance, switching frequency)

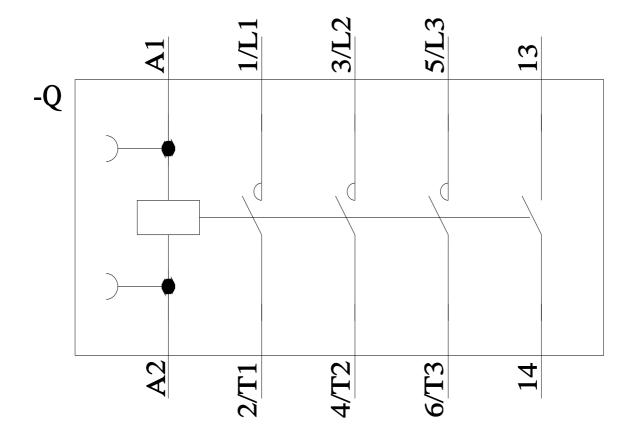
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-1AP01&objecttype=14&gridview=view1











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