SIEMENS

Data sheet

3RT2017-2AF02



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 110 V AC, 50/60 Hz, auxiliary contacts: 1 NC, spring-loaded terminal, size: S00

1013 2014 A	
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
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 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
Weight	0.253 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	39.6 kg
global warming potential [CO2 eq] during manufacturing	1.18 kg
global warming potential [CO2 eq] during operation	38.5 kg
global warming potential [CO2 eq] after end of life	-0.155 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 value at AC-1 	22 A
— up to 690 V at ambient temperature 40 °C rated value	22 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	
— 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 19.4 A
 at AC-5a up to 690 V rated value at AC-5b up to 400 V rated value 	9.9 A
• at AC-6a	5.5 A
 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 20 A
— at 100 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 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				
• 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- 4				
at 400 V rated value	2 kW			
at 690 V rated value	2.5 kW			
operating apparent power at AC-6a	2.5 KW			
up to 230 V for current peak value n=20 rated value	2.8 kVA			
• up to 200 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 500 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 200 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 500 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			
 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 60 s switching at zero current maximum 	61 A; Use minimum cross-section acc. to AC-1 rated value			
no-load switching frequency				
• at AC	10 000 1/h			
operating frequency				
• 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	110 V			
at 60 Hz rated value	110 V 110 V			
operating range factor control supply voltage rated value of				
magnet coil at AC				
• 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	0.8			
● at 50 Hz ● at 60 Hz	0.8 0.75			
apparent holding power of magnet coil at AC	0.10			
• at 50 Hz	5.7 VA			
• at 50 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 NC 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	10.0			
 at 24 V rated value at 48 V rated value 	10 A 6 A			
at 48 V rated value at 60 V rated value	6 A			
at 100 V rated value at 110 V rated value	3A			
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				
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 	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 side-by-side mounting	Yes			
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715			
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				
— forwards	10 mm			
— upwards	10 mm			
— at the side	6 mm			
— downwards	10 mm			
for live parts				
— forwards	10 mm			
	10 mm			
— upwards	10 mm			
— downwards				
— 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	0(0.5			
— solid	2x (0.5 4 mm ²)			
— solid or stranded	2x (0,5 4 mm ²)			
 finely stranded with core end processing 	2x (0.5 2.5 mm ²)			
— finely stranded without core end processing	2x (0.5 2.5 mm ²)			
for AWG cables for main contacts	2x (20 12)			
connectable conductor cross-section for main contacts				
• solid	0.5 4 mm ²			
• stranded	0.5 4 mm ²			
finely stranded with core end processing	0.5 2.5 mm ²			
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 mm ²			
 finely stranded without core end processing 	0.5 2.5 mm²			

turns of connectable cor	ductor cross costion					
 type of connectable cor for auxiliary contact 		3				
- solid or stran			2x (0,5 4 mm²)			
		oing	2x (0,5 4 mm ²)			
-	d with core end proces	•				
-	d without core end prod	cessing	2x (0.5 2.5 mm ²)			
for AWG cables for			2x (20 12)			
AWG number as coded section	connectable conduct	or cross				
 for main contacts 			20 12			
 for auxiliary contact 	ts		20 12			
Safety related data						
product function						
 mirror contact according 	ording to IEC 60947-4-1		Yes			
 positively driven op 	peration according to IE	C 60947-5-1	No			
 suitable for safety f 	-		Yes			
suitability for use safety-re			Yes			
service life maximum			20 a			
test wear-related servic	e life necessarv		Yes			
proportion of dangerou						
	ate according to SN 319	920	40 %			
	rate according to SN 31		73 %			
B10 value with high den			1 000 000			
failure rate [FIT] with lov 31920			1000 000 100 FIT			
ISO 13849						
device type according t	o ISO 13849-1		3			
overdimensioning acco		10COSSSIV	Yes			
IEC 61508	ruing to 100 13045-21	lecessary	103			
safety device type acco	rding to IEC 61508-2		Туре А			
Electrical Safety			Туре А			
•	he front according to	IEC 60529	IP20			
protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529		finger-safe, for vertical contac	t from the front			
Approvals Certificates		0 00323				
General Product Appro	VdI					
	UK CA	<u>Confirmatio</u>	EG-Konf.	U	<u>KC</u>	
General Product Ap- proval	EMV	Test Certificat	es	Marine / Shipping		
EHC	RCM	<u>Special Test Ce</u> <u>ate</u>	ertific- <u>Type Test Certific-</u> ates/Test Report	ABS	BUREAU VERITAS	
Marine / Shipping					other	
	Lloyd's Register us	PRS	RINA	RMRS	<u>Miscellaneous</u>	
other		Railway	Environment			
Confirmation	Confirmation	<u>Special Test Ce</u> <u>ate</u>	ertific- EPD	Environmental Con- firmations		

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=3RT2017-2AF02

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2AF02

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AF02

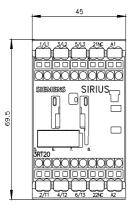
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

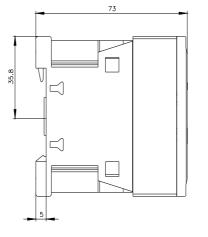
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2AF02&lang=en

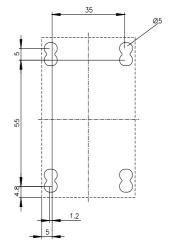
Characteristic: Tripping characteristics, I²t, Let-through current

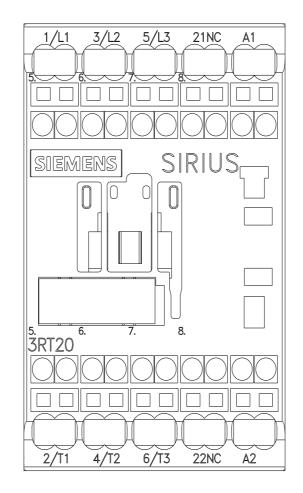
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AF02/char

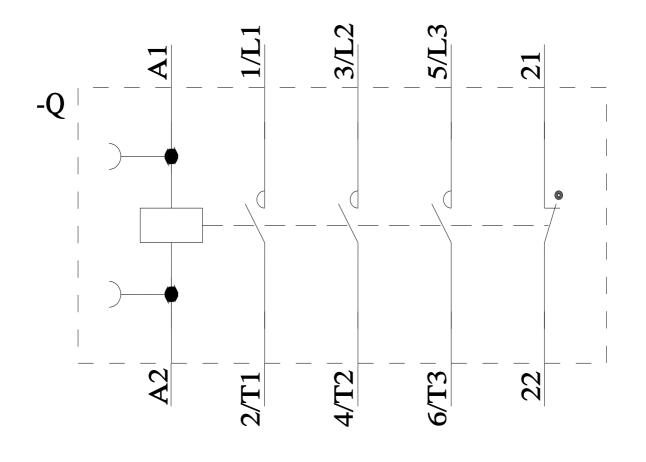
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2AF02&objecttype=14&gridview=view1











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