## 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	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	1.5 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	0.5 W
<ul> <li>without load current share typical</li> </ul>	1.5 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	6 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	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)	
<ul> <li>of contactor typical</li> </ul>	30 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	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	
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
<ul> <li>at AC-3e rated value maximum</li> </ul>	690 V
operational current	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> <li>at AC-1</li> </ul>	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
<ul> <li>at AC-5a up to 690 V rated value</li> <li>at AC-5b up to 400 V rated value</li> </ul>	9.9 A
• at AC-6a	5.5 A
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	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	
<ul> <li>— up to 230 V for current peak value n=30 rated value</li> </ul>	4.8 A
— up to 400 V for current peak value n=30 rated value	4.8 A
<ul> <li>— up to 500 V for current peak value n=30 rated value</li> </ul>	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 <sup>2</sup>
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
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	
— 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			
<ul> <li>at 1 current path at DC-3 at DC-5</li> </ul>				
— at 24 V rated value	20 A			
— at 60 V rated value	0.5 A			
— at 110 V rated value	0.15 A			
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>				
— at 24 V rated value	20 A			
— at 60 V rated value	5 A			
— at 110 V rated value	0.35 A			
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>				
— 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				
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	200 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	123 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	96 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	74 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	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			
<ul> <li>at 24 V rated value</li> <li>at 48 V rated value</li> </ul>	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]				
<ul> <li>for single-phase AC motor</li> <li>— at 110/120 V rated value</li> </ul>				
	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				
<ul> <li>for short-circuit protection of the main circuit</li> </ul>				
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 50A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)			
<ul> <li>— with type of assignment 2 required</li> </ul>	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)			
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	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 <sup>2</sup> )			
— solid or stranded	2x (0,5 4 mm <sup>2</sup> )			
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 2.5 mm <sup>2</sup> )			
— finely stranded without core end processing	2x (0.5 2.5 mm <sup>2</sup> )			
for AWG cables for main contacts	2x (20 12)			
connectable conductor cross-section for main contacts				
• solid	0.5 4 mm <sup>2</sup>			
• stranded	0.5 4 mm <sup>2</sup>			
finely stranded with core end processing	0.5 2.5 mm <sup>2</sup>			
finely stranded without core end processing	0.5 2.5 mm²			
connectable conductor cross-section for auxiliary contacts				
<ul> <li>solid or stranded</li> </ul>	0.5 4 mm²			
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm <sup>2</sup>			
<ul> <li>finely stranded without core end processing</li> </ul>	0.5 2.5 mm²			

turns of connectable cor	ductor cross costion					
<ul> <li>type of connectable cor</li> <li>for auxiliary contact</li> </ul>		3				
- solid or stran			2x (0,5 4 mm²)			
		oing	2x (0,5 4 mm <sup>2</sup> )			
-	d with core end proces	•				
-	d without core end prod	cessing	2x (0.5 2.5 mm <sup>2</sup> )			
for AWG cables for			2x (20 12)			
AWG number as coded section	connectable conduct	or cross				
<ul> <li>for main contacts</li> </ul>			20 12			
<ul> <li>for auxiliary contact</li> </ul>	ts		20 12			
Safety related data						
product function						
<ul> <li>mirror contact according</li> </ul>	ording to IEC 60947-4-1		Yes			
<ul> <li>positively driven op</li> </ul>	peration according to IE	C 60947-5-1	No			
<ul> <li>suitable for safety f</li> </ul>	-		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.	<b>U</b>	<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

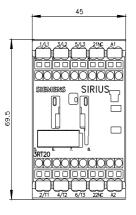
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

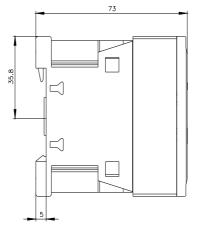
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2017-2AF02&lang=en

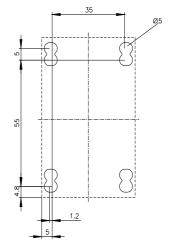
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

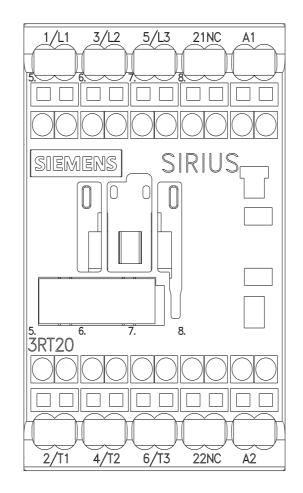
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AF02/char

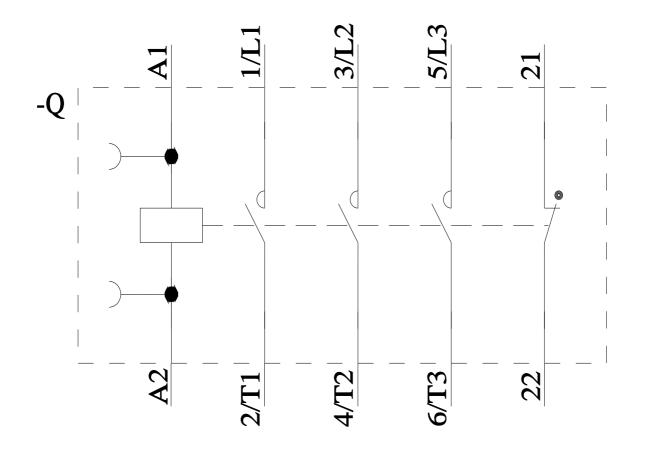
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2AF02&objecttype=14&gridview=view1











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