SIEMENS

Data sheet

3RT2023-2AN20



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 220 V AC, 50/60 Hz, auxiliary contacts: 1 NO + 1 NC, spring-loaded terminal, size: S0

product brand name SIRUS product brand designation 9ower contactor product type designation SRT2 contractor S0 size of contactor S0 product stension No • function module for communication No • auxiliary switch Yes power loss [V] for rated value of the current 0.6 W • at AC in hot operating state 0.6 W • at AC in hot operating state per pole 0.2 W • without load current share typical 7.9 W insultation voltage 690 V • of main inculu with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary dircuit rated value 64 KV • of auxiliary circuit rated value 64 V • of auxiliary dircuit rated value 7.5g / 5 ms, 4.7g / 10 ms machinery soutch block typical 10 000 000 • at				
product type designation 3RT2 General technical data	product brand name	SIRIUS		
General technical data S0 size of contactor S0 product extension No • auxiliary switch Yes power loss [W] for rated value of the current 0.6 W • at AC in hot operating state 0.6 W • at AC in hot operating state prole 0.2 W • without load current share typical 7.9 W Insulation voltage 680 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 64 V • of main circuit rated value 64 V • of auxillary circuit rated value 600 V • at AC 7.5g / 5 ms, 4.7g / 10 ms mechanical service life (operating cycles) 10 000 000 • of the contactor with added alcetronically optimized auxillary switch block typical 10 000 000 • of the contactor with added alcetronically optimized auxillary switch block typical 10 000 000 • of the contactor with added auxillary switch block typical 10 000 000 • of the contacto	product designation	Power contactor		
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• 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	installation altitude at height above sea level maximum	2 000 m		
• during storage -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum 95 % Main circuit	ambient temperature			
relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 95 % Main circuit 95 %	during operation	-25 +60 °C		
relative humidity at 55 °C according to IEC 60068-2-30 95 % Main circuit 95 %	during storage	-55 +80 °C		
maximum Main circuit	relative humidity minimum	10 %		
		95 %		
number of poles for main current circuit 3	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	40 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	40 A
— up to 690 V at ambient temperature 60 °C rated	35 A
value	
• at AC-3	
— at 400 V rated value	9 A
— at 500 V rated value	9 A
— at 690 V rated value	9 A
• at AC-3e	
— at 400 V rated value	9 A
— at 500 V rated value	9 A
— at 690 V rated value	9 A 0 5 A
at AC-4 at 400 V rated value	8.5 A
at AC-5a up to 690 V rated value	35.2 A
• at AC-5b up to 400 V rated value	7.4 A
• at AC-6a	44.4.4
— up to 230 V for current peak value n=20 rated value	11.4 A
 — up to 400 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value 	11.4 A 9.1 A
— up to 500 V for current peak value n=20 rated value	9A
• at AC-6a	SA .
 up to 230 V for current peak value n=30 rated value 	7.6 A
— up to 200 V for current peak value n=30 rated value	7.6 A
— up to 500 V for current peak value n=30 rated value	6.1 A
— up to 690 V for current peak value n=30 rated value	6.1 A
minimum cross-section in main circuit at maximum AC-1 rated	10 mm ²
value	
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	35 A
— at 60 V rated value	20 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
 with 3 current paths in series at DC-1 	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
 at 1 current path at DC-3 at DC-5 	

— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
operating power	
• at AC-3	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	7.5 kW
• at AC-3e	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	7.5 kW
operating power for approx. 200000 operating cycles at AC-	
4 ● at 400 V rated value	2 kW
at 400 V rated value 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	4.5 kVA
• up to 400 V for current peak value n=20 rated value	7.8 kVA
• up to 500 V for current peak value n=20 rated value	7.8 KVA
• up to 690 V for current peak value n=20 rated value	10.7 kVA
operating apparent power at AC-6a	
up to 230 V for current peak value n=30 rated value	3 kVA
• up to 400 V for current peak value n=30 rated value	5.2 kVA
• up to 500 V for current peak value n=30 rated value	5.2 KVA
• up to 690 V for current peak value n=30 rated value	7.2 KVA
short-time withstand current in cold operating state up to	
40 °C	
 limited to 1 s switching at zero current maximum 	170 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	170 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	140 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	104 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	88 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	5 000 1/h
operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	1 000 1/h
• at AC-3 maximum	1 000 1/h
• at AC-3e maximum	1 000 1/h
• at AC-4 maximum	300 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
- • • • •	

control supply voltage at AC	
• at 50 Hz rated value	220 V
• at 60 Hz rated value	220 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	68 VA
• at 60 Hz	67 VA
inductive power factor with closing power of the coil	
● at 50 Hz	0.72
• at 60 Hz	0.74
apparent holding power of magnet coil at AC	
• at 50 Hz	7.9 VA
• at 60 Hz	6.5 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
• at 60 Hz	0.28
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 100 V rated value	1A
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	
	7.6 A
 at 480 V rated value 	7.0 A
a at 600 V/ rated voluce	0.4
• at 600 V rated value	9 A
yielded mechanical performance [hp]	9 A
yielded mechanical performance [hp] • for single-phase AC motor	
yielded mechanical performance [hp]	9 A 1 hp 1 hp

for 3-phase AC motor				
— at 200/208 V rated value	2 hp			
— at 220/230 V rated value	3 hp			
— at 460/480 V rated value	5 hp			
— at 575/600 V rated value	7.5 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: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)			
— with type of assignment 2 required	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (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	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	0			
solid solid or stranded	2x (1 10 mm ²)			
 solid or stranded finally stranded with core and processing 	$2x (1 10 \text{ mm}^2)$			
 finely stranded with core end processing finely stranded without core end processing 	$2x (1 6 mm^2)$			
finely stranded without core end processing connectable conductor cross-section for main contacts	2x (1 6 mm²)			
solid	1 10 mm²			
stranded	1 10 mm²			
 finely stranded with core end processing 	1 6 mm ²			
 finely stranded with core end processing finely stranded without core end processing 	1 6 mm ²			
connectable conductor cross-section for auxiliary contacts				
solid or stranded	0.5 2.5 mm²			
finely stranded with core end processing	0.5 2.5 mm ²			
 finely stranded with our end processing finely stranded without core end processing 	0.5 1.5 mm ²			
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 2.5 mm ²)			
 — finely stranded with core end processing — finely stranded without core end processing 	2x (0.5 1.5 mm ²) 2x (0.5 2.5 mm ²)			
inter, chanded without one one proceeding				

• for AWG cables	for auxiliary contacts		2x (20 14	1)		
	ed connectable conducto	r cross	2X (20 1	*)		
 for main contact 	for main contacts		18 8			
 for auxiliary cont 	tacts		20 14			
Safety related data						
product function						
 mirror contact ad 	ccording to IEC 60947-4-1		Yes			
B10 value with high de	mand rate according to SN	31920	450 000			
proportion of danger	ous failures					
 with low demand 	d rate according to SN 3192	20	40 %			
 with high deman 	nd rate according to SN 319	020	73 %			
failure rate [FIT] with lo	w demand rate according t	o SN 31920	100 FIT			
T1 value for proof test 61508	interval or service life acco	rding to IEC	20 a			
protection class IP or	n the front according to I	EC 60529	IP20			
touch protection on t	he front according to IEC	60529	finger-safe	for vertical contact	ct from the front	
suitability for use						
 safety-related sv 	-		Yes			
Certificates/ approvals						
General Product App	proval					
		<u>Confirmatio</u>	n		<u>KC</u>	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of	Conformity		Test Certificates	
RCM	<u>Type Examination Cer-</u> <u>tificate</u>	CE EG-Konf.		UK CA	<u>Special Test Certific-</u> <u>ate</u>	<u>Type Test Certific-</u> ates/Test Report
Marine / Shipping						
ABS	B UREAU VERITAS			Llovd's Register uts	PRS	RINA
Marine / Shipping	other				Railway	Environment
RMRS	<u>Confirmation</u>		,	<u>Confirmation</u>	Vibration and Shock	Environmental Con- firmations
Further information Siemens has decided						

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,...)

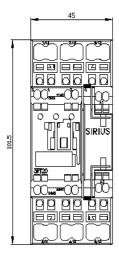
https://www.siemens.com/ic10

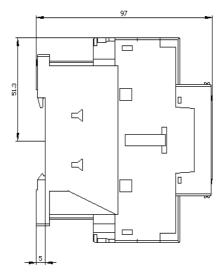
Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2023-2AN20

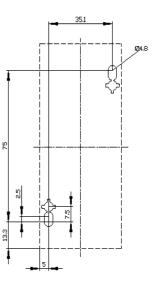
Cax online generator

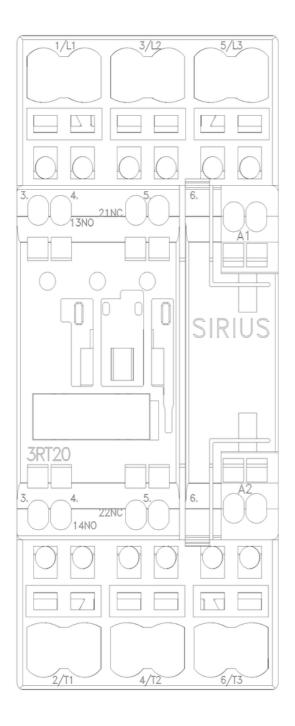
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2023-2AN20

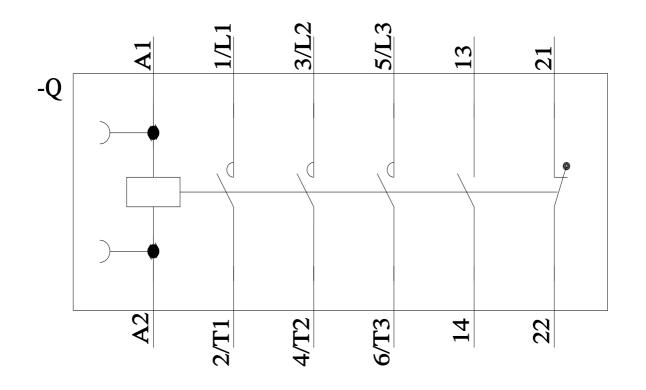
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-2AN20 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2023-2AN20&lang=en Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-2AN20/char Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2023-2AN20&objecttype=14&gridview=view1











last modified:

2/10/2023 🖸