SIEMENS

Data sheet

3RT2023-2AK60



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 110 V AC, 50 Hz / 120 V, 60 Hz, auxiliary contacts: 1 NO + 1 NC, spring-loaded terminal, size: S0

product brand name SIRIUS product type designation 9xer contactor product type designation SRT2 General technical data - size of contactor S0 of unction module for communication No - auxiliary switch Yes power loss [W] for rated value of the current - - at AC in hot operating state 0.5 W - at AC in hot operating state per pole 0.2 W - of main forult with degree of pollution 3 rated value 690 V - of main forult with degree of pollution 3 rated value 690 V - of main forult at day value 690 V - of main forult at day value 680 V - of auxiliary circuit rated value 690 V - of main forult at day value 690 V - of main circuit at day value 64 V - of auxiliary circuit rated value 64 V - of auxiliary dircuit rated value 64 V - of auxiliary dircuit rated value 64 V - of auxiliary dircuit rated value 100 V - of auxiliary dircuit rated value 61 V - of auxilia	and a	
product type designation 3RT2 General tochnical data	product brand name	SIRIUS
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size of contactor S0 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 0.6 W • at AC in hot operating state per pole 0.2 W • without load current share typical 2 W Insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit rated value 6 kV • of auxiliary siter burging to EN costPX-1 400 V shock resistance with sine pulse 7.5g / 5 ms, 4.7g / 10 ms • at AC 7.5g / 5 ms, 7.4g / 10 ms mechanical service life (operating cycles) 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switc	product type designation	3RT2
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relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 95 % maximum 95 %	during operation	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 95 %	during storage	-55 +80 °C
maximum	relative humidity minimum	10 %
		95 %
Main circuit	Main circuit	
number of poles for main current circuit 3	number of poles for main current circuit	3

number of NO contacts for main contacts	3
	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	40 A
value	
— up to 690 V at ambient temperature 60 °C rated value	35 A
• 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
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	
 — 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	11.4 A
— up to 500 V for current peak value n=20 rated value	9.1 A
— up to 690 V for current peak value n=20 rated value	9 A
● at AC-6a	
— up to 230 V for current peak value n=30 rated value	7.6 A
 — up to 400 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 value	10 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	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	05.4
— 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	110 V
at 60 Hz rated value	120 V
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.8 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	1A
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 10 V rated value	3 A
at 125 V rated value	2 A
at 125 v rated value at 220 V rated value	1A
at 220 V rated value at 600 V rated value	0.15 A
operational current at DC-13	10.4
at 24 V rated value	10 A
• at 48 V rated value	2 A 2 A
at 60 V rated value	2 A
at 110 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	
at 480 V rated value	7.6 A
at 600 V rated value	9 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	1 hp
— at 230 V rated value	1 hp

for 3-phase AC motor				
- at 200/208 V rated value	2 hp			
- at 220/230 V rated value	2 np 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	10			
— forwards	10 mm			
— upwards — downwards	10 mm 10 mm			
— at the side	6 mm			
Connections/ Terminals	0 mm			
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-toget 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 mm ²)			
 finely stranded with core end processing 	2x (1 6 mm²)			
 finely stranded without core end processing 	2x (1 6 mm ²)			
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 mm ²)			
— finely stranded with core end processing	2x (0.5 1.5 mm ²)			
 finely stranded without core end processing 	2x (0.5 2.5 mm²)			

5 ANA/O 11	6 W 1 1		0 (00 4	0		
	for auxiliary contacts ed connectable conducto	r cross	2x (20 1	4)		
 for main contacts 	s		18 8			
	for auxiliary contacts		20 14			
Safety related data			20 11			
product function						
-	ccording to IEC 60947-4-1		Vec			
	y-related switching OFF		Yes			
	mand rate according to SN	21020	Yes			
		131920	450 000			
proportion of danger		20	40.9/			
	d rate according to SN 319		40 %			
	id rate according to SN 319		73 %			
	w demand rate according		100 FIT			
61508	interval or service life acco	_	20 a			
-	n the front according to I		IP20			
-	he front according to IEC	60529	finger-safe	, for vertical contac	t from the front	
Certificates/ approvals						
General Product App	oroval					
	<u>Confirmation</u>			UL UL	KC	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	Type Test Certific- ates/Test Report	<u>Special Test Certific-</u> <u>ate</u>
Marine / Shipping						
ABS	BUREAU VERITAS			Lloyds Register us	PRS	RINA
Marine / Shipping	other				Railway	Environment
RMRS R	<u>Confirmation</u>	DE	,	Confirmation	Vibration and Shock	Environmental Con- firmations
Further information						

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=3RT2023-2AK60 Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2023-2AK60

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

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

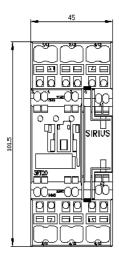
 http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2023-2AK60&lang=en

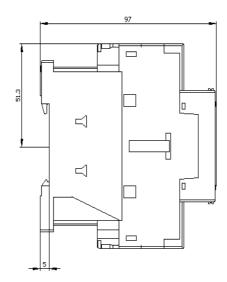
 Characteristic: Tripping characteristics, I²t, Let-through current

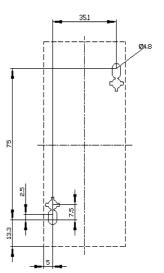
 https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-2AK60/char

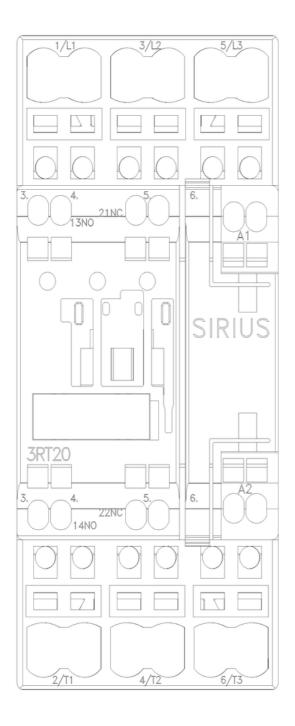
 Further characteristics (e.g. electrical endurance, switching frequency)

 http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2023-2AK60&objecttype=14&gridview=view1











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