SIEMENS

Data sheet

3RT2017-1BM41



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 220 V DC, auxiliary contacts: 1 NO, screw terminal, size: S00

product brand name SIRUS product brand designation 9x8r2 contactor product type designation SR12 canneral technical data - size of contactor S00 product extension No - function module for communication No - auxiliary switch Yes power loss [VI] 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 - of main circult with degree of pollution 3 rated value 690 V - of auxiliary circult with degree of pollution 3 rated value 690 V - of auxiliary circult with degree of pollution 3 rated value 690 V - of auxiliary circult rated value 680 V - of auxiliary circult rated value 690 V - of auxiliary circult rated value 61 V - of auxiliary circult rated value 61 V - of auxiliary circult rated value 61 V		
product type designation 3RT2 General technical data	product brand name	SIRIUS
General tochnical data S00 size of contactor S00 product extension No • auxiliary switch Yes power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state 1.5 W • at AC in hot operating state 0.5 W • without load current share typical 0.5 W • of main circuit with degree of pollution 3 rated value 680 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 64V • of main circuit with degree of pollution 3 rated value 64V • of auxiliary circuit rated value 64V • at DC 7.3g / 5 ms, 4.7g / 10 ms mechanical service life (operating cycles) 30 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000	product designation	Power contactor
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• at AC in hot operating state prole 1.5 W • at AC in hot operating state per pole 0.5 W • without load current share typical 4 W insultation 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 main circuit rated value 680 V • of main circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • at DC 7.3g / 5 ms, 4.7g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms • of contactor typical 30 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 <th>auxiliary switch</th> <th>Yes</th>	auxiliary switch	Yes
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• 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 680 V • of main circuit rated value 6 kV • of auxiliary circuit rated value 6 kV maximum permissible voltage for protective separation between 400 V coll and main contacts according to EN 60947-1 400 V shock resistance at rectangular impulse 7.3g / 5 ms, 4.7g / 10 ms • at DC 7.3g / 5 ms, 7.3g / 10 ms shock resistance with sine pulse 30 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 2000 m ambient temperature -25 +60 °C • 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	 without load current share typical 	4 W
• of auxillary circuit with degree of pollution 3 rated value 690 V surge voltage resistance 6 kV • of main circuit rated value 6 kV • of auxillary circuit rated value 6 kV • at DC 7.3g / 5 ms, 4.7g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms • of contactor typical 30 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • 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 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • during storage -55	insulation voltage	
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• of main circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • auxiliary circuit rated value 400 V • at DC 7.3g / 5 ms, 4.7g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms • of the contactor typical 30 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 0 000 n • ambient conditions <th> of auxiliary circuit with degree of pollution 3 rated value </th> <th>690 V</th>	 of auxiliary circuit with degree of pollution 3 rated value 	690 V
• of auxiliary circuit rated value 6 kV maximum permissible voltage for protective separation between coll and main contacts according to EN 60947-1 400 V shock resistance at rectangular impulse 400 V • at DC 7.3g / 5 ms, 4.7g / 10 ms shock resistance with sine pulse 11.4g / 5 ms, 7.3g / 10 ms • at DC 11.4g / 5 ms, 7.3g / 10 ms mechanical service life (operating cycles) 11.4g / 5 ms, 7.3g / 10 ms • of to contactor with added electronically optimized auxiliary switch block typical 30 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • 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 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • during storage -55 +80 °C relative humidity at 55 °C according to IEC 60068-2-30 95 % Main circuit 10 %	surge voltage resistance	
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coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse • at DC 7.3g / 5 ms, 4.7g / 10 ms shock resistance with sine pulse - • at DC 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 10 000 000 • 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 - • 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 %	 of auxiliary circuit rated value 	6 kV
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Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • 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	reference code according to IEC 81346-2	Q
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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 -55 +80 °C	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	during storage	-55 +80 °C
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	22 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated	20 A
value	
• 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
• 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 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
— 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 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 200 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-	5.5 KW
4	
 at 400 V rated value 	2 kW
 at 690 V rated value 	2.5 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	2.8 kVA
• up to 400 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 690 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 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
 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 DC	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	DC
control supply voltage at DC	
rated value	220 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.8
• full-scale value	1.1

closing power of magnet coil at DC	4 W
holding power of magnet coil at DC	4 W
closing delay	
• at DC	30 100 ms
opening delay	
• at DC	7 13 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	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 100 V rated value	1A
at 125 V rated value	0.9 A
at 125 V rated value at 220 V rated value	0.3 A
at 220 V rated value 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	44.0
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
	paperword by the state on vortical mounting curtage
	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	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes
-	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715

depth	73 mm
required spacing	
with side-by-side mounting	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
	0 mm
 for grounded parts forwards 	10 mm
	10 mm
— upwards — at the side	6 mm
— downwards	10 mm
	10 mm
for live parts forwards	10 mm
— 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
	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 mm ²), 2x (0.75 2.5 mm ²), 2x 4 mm ²
solid or stranded	2x (0,5 1,5 mm ²), 2x (0,75 2,5 mm ²), 2x 4 mm ²
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 mm ²
• stranded	0.5 4 mm ²
finely stranded with core end processing	0.5 2.5 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 4 mm ²
finely stranded with core end processing	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²), 2x 4 mm ²
— finely stranded with core end processing	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)
• for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross	2x (20 16), 2x (18 14), 2x 12
section	
• for main contacts	20 12
for auxiliary contacts	20 12
Safety related data	
product function	
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	
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
Certificates/ approvals	
General Product Approval	

SP	<u>Confirmation</u>		U	<u>KC</u>	EHC	
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Confor	mity	Test Certificates		
RCM	<u>Type Examination Cer-</u> tificate	CE EG-Konf.	UK CA	Type Test Certific- ates/Test Report	<u>Special Test Certific-</u> <u>ate</u>	
Marine / Shipping						
ABS	BUREAU VERITAS		Lloyd's Kegister urs	PRS	RINA	
Marine / Shipping	other		Railway	Dangerous Good	Environment	
RMRS RMRS	Household and similar appliances	<u>Confirmation</u>	Vibration and Shock	Transport Information	Environmental Con- firmations	
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.						
EAC relevant market (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					
	siemens.com/cs/ww/en/vie					
https://support.industry	vnloadcenter (Catalogs, B om/ic10					

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-1BM41

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1BM4

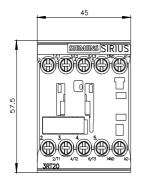
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-1BM41&lang=en

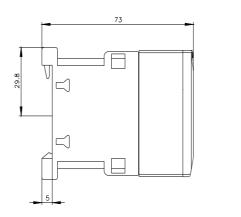
Characteristic: Tripping characteristics, I2t, Let-through current

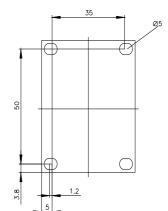
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1BM41/char

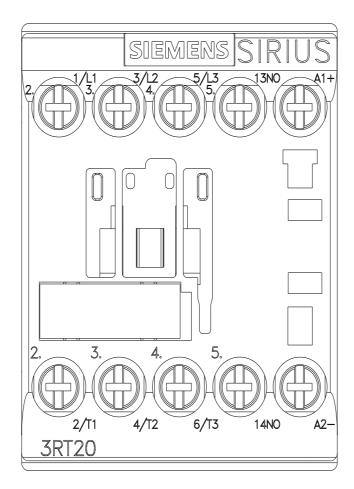
Further characteristics (e.g. electrical endurance, switching frequency)

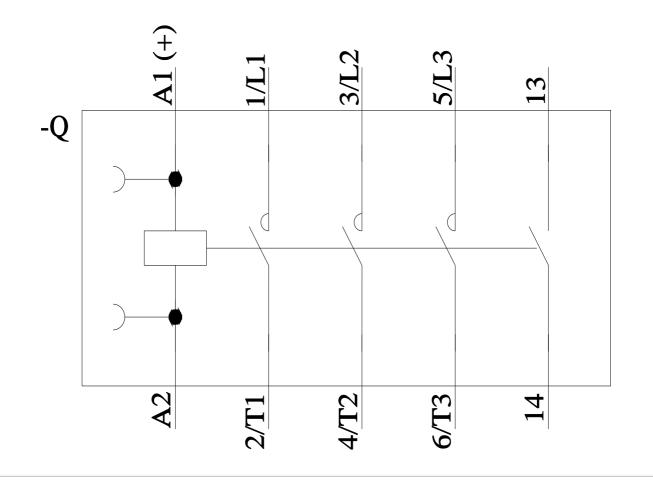
http://www.automation.siem ens.com/bilddb/index.aspx?view=S arch&mlfb=











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