SIEMENS

Data sheet

3RT2016-2KB41



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 24 V DC, 0.7-1.25* Us, with integrated suppressor diode, auxiliary contacts: 1 NO, spring-loaded terminal, size: S00, suitable for PLC outputs, not expandable with auxiliary switch

product brand name	SIRIUS		
product designation	Coupling contactor		
product type designation	3RT2		
General technical data			
size of contactor	S00		
product extension			
 function module for communication 	No		
auxiliary switch	No		
power loss [W] for rated value of the current			
 at AC in hot operating state 	0.9 W		
 at AC in hot operating state per pole 	0.3 W		
 without load current share typical 	2.8 W		
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 DC	6,7g / 5 ms, 4,2g / 10 ms		
shock resistance with sine pulse			
• at DC	10,5g / 5 ms, 6,6g / 10 ms		
mechanical service life (operating cycles)			
of contactor typical	30 000 000		
reference code according to IEC 81346-2	Q		
Substance Prohibitance (Date)	10/01/2009		
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 %		
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		

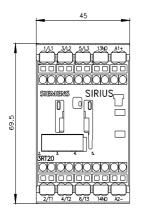
• at AC 3c rated value maximum	600.1/		
at AC-3e rated value maximum	690 V		
operational current o at AC-1 at 400 V at ambient temperature 40 °C rated	22 A		
value • at AC-1			
 at AC-1 — up to 690 V at ambient temperature 40 °C rated 	22.4		
value	22 A		
— up to 690 V at ambient temperature 60 °C rated value	20 A		
• at AC-3			
— at 400 V rated value	9 A		
— at 500 V rated value	7.7 A		
— at 690 V rated value	6.7 A		
• at AC-3e			
— at 400 V rated value	9 A		
— at 500 V rated value	7.7 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 	7.4 A		
• at AC-6a			
 — up to 230 V for current peak value n=20 rated value 	5.3 A		
 — up to 400 V for current peak value n=20 rated value 	5.3 A		
— up to 500 V for current peak value n=20 rated value	5.3 A		
— up to 690 V for current peak value n=20 rated value	5 A		
● at AC-6a			
— up to 230 V for current peak value n=30 rated value	3.5 A		
— up to 400 V for current peak value n=30 rated value	3.5 A		
— up to 500 V for current peak value n=30 rated value	3.6 A		
— up to 690 V for current peak value n=30 rated value	3.3 A		
minimum cross-section in main circuit at maximum AC-1 rated	4 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	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			
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		

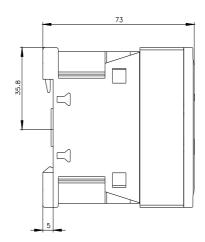
	• with 2 current paths in series at DC-3 at DC-5					
• with 3 current paths in series at DC-3 at DC-5 VA - at 24 V rade value 20 A - at 20 V rade value 0.2 A - at 20 V rade value 2.2 AV - at 20 V rade value 2.2 AV - at 20 V rade value 2.2 AV - at 20 V rade value 5.5 W - at 20 V rade value 2.4 W - at 20 V rade value 5.5 W - at 20 V rade value 5.5 W - at 20 V rade value 5.5 W - at 20 V rade value 2.4 W - at 400 V rade value 2.5 W Operating apparent power for approx. 200000 operating cycles at AC-6 W - up 0.20 V for current pack value n=20 rade value 2.6 W - up 0.20 V for current pack value n=20 rade value 2.6 W - up 0.20 V for current pack value n=30 rade value 2.6 W - up 0.60 V for current		5 A				
		0.35 A				
	-					
− at 800 V rated value 0.2 Å operating power - - at 230 V rated value 2.2 kW - at 230 V rated value 4 kW - at 600 V rated value 5 kW - at 600 V rated value 5 kW - at 6230 V rated value 2.2 kW - at 600 V rated value 2.5 kW - at 600 V rated value 2.5 kW - at 600 V rated value 2.6 kW - at 600 V rated value 2.6 kW - at 600 V rated value = 20 rated value 2.6 kW - at 600 V rated value = 720 rated value 3.6 kVA - up to 530 V for current pack value n=20 rated value 3.6 kVA - up to 530 V for current pack value n=30 rated value 3.6 kVA - up to 530 V for current pack value n=30 rated value 3.6 kVA - up to 530 V for current pack value n=30 rated value 3.6 kVA <td></td> <td></td>						
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eat AC-3e 						
		5.5 kW				
		0.011/1/				
− at 690 V rated value 5 kW operating power for approx. 200000 operating cycles at AC- 4 Vieled value at 400 V rated value 2.k kW at 690 V rated value 2.k kW operating apparent power at AC-6a Vieled value up to 200 V for current peak value n=20 rated value 3.6 kVA up to 500 V for current peak value n=20 rated value 3.6 kVA operating apparent power at AC-6a Viele value on 20 rated value up to 500 V for current peak value n=20 rated value 3.6 kVA operating apparent power at AC-6a Viele value on 20 rated value up to 200 V for current peak value n=30 rated value 2.4 kVA up to 500 V for current peak value n=30 rated value 3.1 kVA up to 500 V for current peak value n=30 rated value 4.4 kVA up to 500 V for current peak value n=30 rated value 4.4 kVA up to 500 V for current pack value n=30 rated value 4.4 kVA initide to 15 switching at zero current maximum 115 A. Use minimum cross-section acc. to AC-1 rated value initide to 15 switching at zero current maximum 66 A. Use minimum cross-section acc. to AC-1 rated value initide to 15 switching at zero current maximum 66 A. Use minimum cross-section acc. to AC-1 rated value initide to 50 switching at zero current maximum 100 000 1/h at AC-3 maximum 100 000 1/h						
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 up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value tVA short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum 155 A; Use minimum cross-section acc. to AC-1 rated value ilmited to 1 s switching at zero current maximum 155 A; Use minimum cross-section acc. to AC-1 rated value ilmited to 10 s switching at zero current maximum A; Use minimum cross-section acc. to AC-1 rated value ilmited to 30 s switching at zero current maximum 66 A; Use minimum cross-section acc. to AC-1 rated value ilmited to 60 s switching at zero current maximum 66 A; Use minimum cross-section acc. to AC-1 rated value ilmited to 60 s switching at zero current maximum 67 Use minimum cross-section acc. to AC-1 rated value ilmited to 60 s switching at zero current maximum 55 A; Use minimum cross-section acc. to AC-1 rated value ilmited to 60 s switching at zero current maximum 56 A; Use minimum cross-section acc. to AC-1 rated value ilmited to 60 s switching at zero current maximum 56 A; Use minimum cross-section acc. to AC-1 rated value out at AC-2 maximum at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum at AC-2 maximum at AC-3 maximum at AC-4 maximum <	operating apparent power at AC-6a					
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 limited to 1 s switching at zero current maximum limited to 5 s switching at zero current maximum limited to 5 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 10 s switching at zero current maximum 86 A; Use minimum cross-section acc. to AC-1 rated value limited to 30 s switching at zero current maximum 66 A; Use minimum cross-section acc. to AC-1 rated value limited to 60 s switching at zero current maximum 55 A; Use minimum cross-section acc. to AC-1 rated value limited to 60 s switching at zero current maximum 55 A; Use minimum cross-section acc. to AC-1 rated value limited to 60 s switching at zero current maximum 55 A; Use minimum cross-section acc. to AC-1 rated value no-load switching frequency at DC 10 000 1/h at AC-1 maximum at AC-3 maximum 1000 1/h at AC-3 maximum 750 1/h at AC-3 maximum 750 1/h at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage porating fractor control supply voltage rated value of magnet coil at DC initial value initial value 0.7 full-scale value 1.25 	1 0 1					
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• limited to 10 s switching at zero current maximum86 A; Use minimum cross-section acc. to AC-1 rated value• limited to 30 s switching at zero current maximum66 A; Use minimum cross-section acc. to AC-1 rated value• limited to 60 s switching at zero current maximum55 A; Use minimum cross-section acc. to AC-1 rated valueno-load switching frequency10 000 1/h• at DC10 000 1/h• at AC-1 maximum1 000 1/h• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-4 maximum250 1/h• at AC-4 maximum24 V• at AC-1 ontrol supply voltage rated value of magnet coil at DC24 V• initial value0.7• initial value0.7• initial value1.25	-					
 limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum 55 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 1000 1/h at AC-2 maximum 750 1/h at AC-3 maximum 750 1/h at AC-3 maximum 750 1/h at AC-4 maximum 250 1/h control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC at AC-4 maximum 24 V operating range factor control supply voltage rated value of magnet coil at DC initial value 0.7 1.25 						
• limited to 60 s switching at zero current maximum55 A; Use minimum cross-section acc. to AC-1 rated valueno-load switching frequency10 000 1/h• at DC10 000 1/hoperating frequency1 000 1/h• at AC-1 maximum1 000 1/h• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-4 maximum250 1/h• at AC-4 maximum250 1/h• at AC-4 maximum250 1/h• at AC-4 maximum24 V• rated value24 V• rated value0.7• initial value0.7• full-scale value1.25	-					
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• at AC-1 maximum1 000 1/h• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3 maximum750 1/h• at AC-4 maximum250 1/h• at AC-4 maximum250 1/h• at AC-4 maximumDC• control circuit/ ControlDC• rated value24 V• rated value24 V• initial value0.7• full-scale value1.25						
• at AC-2 maximum750 1/h• at AC-3 maximum750 1/h• at AC-3e maximum750 1/h• at AC-4 maximum250 1/h• at AC-4 maximum250 1/hControl circuit/ ControlDCControl supply voltage at DC• rated value• rated value24 Voperating range factor control supply voltage rated value of magnet coil at DC0.7• initial value0.7• full-scale value1.25		1 000 1/b				
• at AC-3 maximum750 1/h• at AC-3e maximum750 1/h• at AC-4 maximum250 1/hControl circuit/ ControlDCcontrol supply voltage of the control supply voltageDCcontrol supply voltage at DC24 V• rated value24 Voperating range factor control supply voltage rated value of magnet coil at DC0.7• initial value0.7• full-scale value1.25						
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• at AC-4 maximum 250 1/h Control circuit/ Control DC type of voltage of the control supply voltage DC control supply voltage at DC 24 V • rated value 24 V operating range factor control supply voltage rated value of magnet coil at DC 0.7 • initial value 0.7 • full-scale value 1.25						
Control circuit/ Control DC type of voltage of the control supply voltage DC control supply voltage at DC 24 V • rated value 24 V operating range factor control supply voltage rated value of magnet coil at DC 0.7 • initial value 0.7 • full-scale value 1.25						
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• rated value 24 V operating range factor control supply voltage rated value of magnet coil at DC 0.7 • initial value 0.7 • full-scale value 1.25						
operating range factor control supply voltage rated value of magnet coil at DC 0.7 • initial value 0.7 • full-scale value 1.25		24 V				
• full-scale value 1.25	operating range factor control supply voltage rated value of					
	● initial value	0.7				
design of the surge suppressor suppressor diode						
	design of the surge suppressor	suppressor diode				
closing power of magnet coil at DC 2.8 W	closing power of magnet coil at DC	2.8 W				
holding power of magnet coil at DC 2.8 W	holding power of magnet coil at DC	2.8 W				

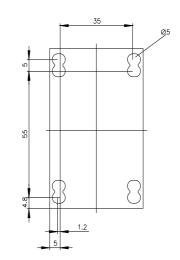
closing delay				
• at DC	25 130 ms			
opening delay				
• at DC	7 20 ms			
arcing time	10 15 ms			
control version of the switch operating mechanism	Standard A1 - A2			
Auxiliary circuit				
number of NO contacts for auxiliary contacts instantaneous contact	1			
operational current at AC-12 maximum	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	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 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 	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	0.33 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	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 / Q600			
Short-circuit protection				
design of the fuse link				
for short-circuit protection of the main circuit				
— with type of coordination 1 required	gG: 35A (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	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715			
 side-by-side mounting 	Yes			
height	70 mm			
• 10	45 mm			
width	45 11111			
depth	73 mm			

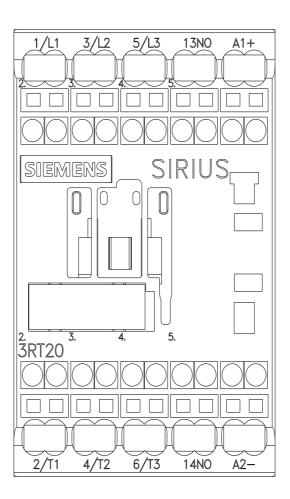
with side-by-side mounting					
— forwards 10 mm					
— upwards	10 mm				
— downwards	10 mm				
— at the side	0 mm				
 for grounded parts 					
— forwards	10 mm				
— upwards	10 mm				
— at the side	6 mm				
— downwards	10 mm				
 for live parts 					
— forwards	10 mm				
— upwards	10 mm				
— downwards	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					
• solid	2x (0.5 4 mm²)				
 solid or stranded 	2x (0,5 4 mm²)				
 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)				
connectable conductor cross-section for main contacts					
• solid	0.5 4 mm²				
stranded	0.5 4 mm²				
 finely stranded with core end processing 	0.5 2.5 mm²				
 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 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 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 auxiliary contacts 	2x (20 12)				
AWG number as coded connectable conductor cross					
section					
 for main contacts 	20 12				
for auxiliary contacts	20 12				
Safety related data					
product function					
 mirror contact according to IEC 60947-4-1 	No				
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	20 a				
61508	IP20				
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				
suitability for use	Ves				
safety-related switching OFF Contificators/ approvals	Yes				
Certificates/ approvals					
General Product Approval					

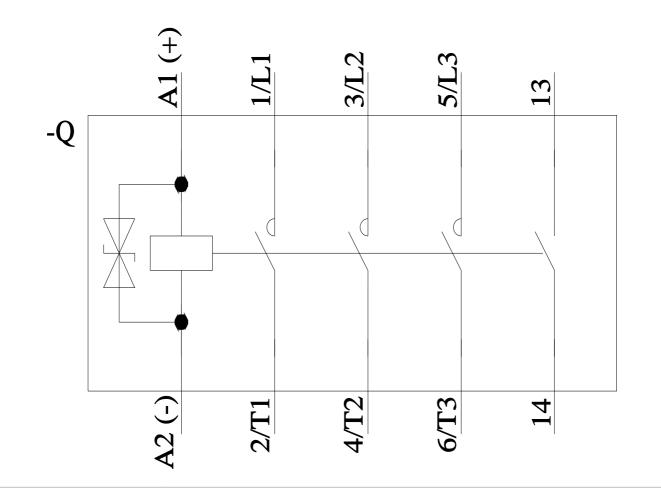
		<u>Confirmation</u>		<u>KC</u>	EHC	
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Conformit	у	Test Certificates		
RCM	<u>Type Examination Cer-</u> <u>tificate</u>	UK CA	CE EG-Konf.	<u>Special Test Certific-</u> <u>ate</u>	Type Test Certific- ates/Test Report	
Test Certificates	Marine / Shipping					
<u>Miscellaneous</u>	ABS	B U REAU VERITAS		Lloyd's Register urs	PRS	
Marine / Shipping		other		Railway	Dangerous Good	
RINA	RMRS	<u>Confirmation</u>	VDE	<u>Vibration and Shock</u>	Transport Information	
Environmental Con- firmations						
Further information Siemens has decided to exit the Russian market (see here).						
https://press.siemens.c Siemens is working of Please contact your loo EAC relevant market (of Information on the pa https://support.industry Information- and Dow https://www.siemens.cc Industry Mall (Online https://mall.industry.sie Cax online generator http://support.automatie	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=3RT2016-2KB41 Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-2KB41 Service&Support (Manuals, Certificates, Characteristics, FAQs,)					
https://support.industry	https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2KB41					
http://www.automation. Characteristic: Trippi https://support.industry Further characteristic	Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-2KB41⟨=en Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2KB41/char Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-2KB41&objecttype=14&gridview=view1					











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