SIEMENS

Data sheet

3RT2027-1AG20



power contactor, AC-3e/AC-3, 32 A, 15 kW / 400 V, 3-pole, 110 V AC, 50/60 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S0

product brand name SIRUS product designation Power contactor product type designation SRT2 connector S0 size of contactor S0 of function module for communication No - auxiliary switch Yes power loss [V] for rated value of the current		
product type designation 3RT2 General technical data	product brand name	SIRIUS
General tochnical data S0 size of contactor S0 product extension No • auxiliary switch Yes power loss [W] for rated value of the current 6.3 W • at AC in hot operating state 6.3 W • at AC in hot operating state 6.3 W • without load current share typical 7.7 W Insulation voltage 690 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 with degree of pollution 3 rated value 64 V • of auxillary circuit rated value 600 V • at AC 8,3g / 5 ms, 5,3g / 10 ms mechanical service life (operating cycles) 10 000 000 • of the contactor with added electronically optimized 500 000 • of the contactor with added auxillary switch block typical 10 000 000 • of the contactor with added auxillary switch block typical 10 000 000 • of the contactor with added auxillary switch block ty	product designation	Power contactor
size of contactor S0 product extension No • function module for communication No • auxilary switch Yes power loss [W] for rated value of the current 6.3 W • at AC in hot operating state per pole 2.3 W • at AC in hot operating state per pole 2.3 W • of main circult with degree of pollution 3 rated value 680 V • of main circult with degree of pollution 3 rated value 690 V surge voltage resistance 6 kV • of main circult with degree of pollution 3 rated value 600 V surge voltage resistance 6 kV • of main circult rated value 6 kV • of main circult with degree of pollution 3 rated value 600 V surge voltage resistance 6 kV • of main circult rated value 6 kV • of auxiliary circuit rated value 6 kV maximum permissible voltage for protective separation between contrast according to EN 60947-1 400 V shock resistance with sine pulse 13.5g / 5 ms, 6.3g / 10 ms • at AC 13.5g / 5 ms, 6.3g / 10 ms mechanical service life (operating cycles) 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 reference code according to EC 60068-2-20 Q	product type designation	3RT2
product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 6.3 W • at AC in hot operating state 6.3 W • at AC in hot operating state per pole 2.3 W • without load current share typical 2.7 W Insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 690 V • of main circuit rated value 64 V • of main contacts according to EN 60947-1 64 N shock resistance at rectangular impulse 64 V • at AC 13.5g / 5 ms, 8.3g / 10 ms shock resistance with sine pulse 10 000 000 • of the contactor with added electronically optimized 10 000 000 auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 0 00 000 • of the contactor with added elevel maximum 2 000 m ambient temperation 25 +60 °C	General technical data	
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• at AC in hot operating state per pole 2.3 W • without load current share typical 2.7 W insulation voltage 6 • 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 690 V • of auxiliary circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • of anality circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • at AC 8.3g / 5 ms, 8.3g / 10 ms mechanical service life (operating cycles) - • of contactor 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 blo	power loss [W] for rated value of the current	
• without load current share typical 2.7 W insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V surge voltage resistance 690 V • of main circuit with degree of pollution 3 rated value 690 V surge voltage resistance 6 kV • of main circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • at AC 8.3g / 5 ms, 5.3g / 10 ms • at AC 13.5g / 5 ms, 8.3g / 10 ms • of contactor 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 • 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 addee elevel maximum 2 000 m ambient conditions 2 000 m • of uring storage </th <th> at AC in hot operating state </th> <th>6.3 W</th>	 at AC in hot operating state 	6.3 W
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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 coll and main contacts according to EN 60947-1 400 V shock resistance at rectangular impulse 8,3g / 5 ms, 5,3g / 10 ms • at AC 8,3g / 5 ms, 8,3g / 10 ms shock resistance with sine pulse 10 000 000 • at AC 13,5g / 5 ms, 8,3g / 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 switch block typical 10 000 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions -25 +60 °C • during operation -25 +60 °C • during storage -55 +60 °C <t< th=""><th> without load current share typical </th><th>2.7 W</th></t<>	 without load current share typical 	2.7 W
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• 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 6 kJ / 5 ms, 5,3g / 10 ms • at AC 8,3g / 5 ms, 5,3g / 10 ms shock resistance with sine pulse - • at AC 13,5g / 5 ms, 8,3g / 10 ms mechanical service life (operating cycles) - • of contactor 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 • of the contactor with added auxiliary switch block typical 10 000 000 reference code according to EC 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 -25 +60 °C • during storage -55 +80 °C relative humidity at 55 °C according to IEC 60068-2-30 95 % Main circuit 55 %	surge voltage resistance	
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• at AC8,3g / 5 ms, 5,3g / 10 msshock resistance with sine pulse13,5g / 5 ms, 8,3g / 10 ms• at AC13,5g / 5 ms, 8,3g / 10 msmechanical service life (operating cycles)0000 000• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000reference code according to IEC 81346-2QSubstance Prohibitance (Date)10/01/2009Ambient conditions2 000 minstallation altitude at height above sea level maximum e during operation2 000 m• during operation • during storage-25 +60 °C• relative humidity minimum10 %relative humidity at 55 °C according to IEC 60068-2-30 maximum95 %		400 V
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• of the contactor with added electronically optimized auxiliary switch block typical5 000 000• of the contactor with added auxiliary switch block typical10 000 000reference code according to IEC 81346-2QSubstance Prohibitance (Date)10/01/2009Ambient conditions2 000 minstallation altitude at height above sea level maximum2 000 mambient temperature • during operation-25 +60 °C• during storage-55 +80 °Crelative humidity minimum10 %Main circuit95 %	mechanical service life (operating cycles)	
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 operation -25 +60 °C • during storage -55 +80 °C relative humidity minimum 10 % Main circuit 95 %	 of contactor 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 operation -25 +60 °C • during storage -55 +80 °C relative humidity minimum 10 % Main circuit 95 %		5 000 000
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 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 the contactor with added auxiliary switch block typical 	10 000 000
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
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 4	Substance Prohibitance (Date)	10/01/2009
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	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 % Main circuit	installation altitude at height above sea level maximum	2 000 m
	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 % maximum 95 % Main circuit 95 %	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

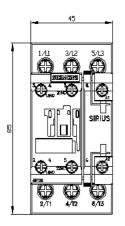
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	690 V
 at AC-3e rated value maximum 	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated	50 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	50 A
— up to 690 V at ambient temperature 60 °C rated	42 A
value	
● at AC-3	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-3e	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
at AC-4 at 400 V rated value	22 A
• at AC-5a up to 690 V rated value	44 A
 at AC-5b up to 400 V rated value at AC-6a 	26.5 A
	30.8 A
— up to 230 V for current peak value n=20 rated value	
 — up to 400 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value 	30.8 A 27 A
— up to 500 V for current peak value n=20 rated value	21 A 21 A
• at AC-6a	21A
 up to 230 V for current peak value n=30 rated value 	20.5 A
— up to 200 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	18 A
— up to 690 V for current peak value n=30 rated value	18 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	12 A
at 690 V rated value	12 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 	

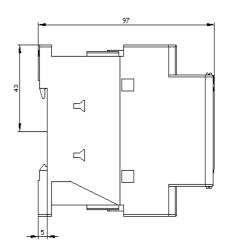
— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— 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	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
• at AC-3e	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
operating power for approx. 200000 operating cycles at AC-	
4	0.197
• at 400 V rated value	6 kW
at 690 V rated value	10.3 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	12.2 kVA
• up to 400 V for current peak value n=20 rated value	21.3 kVA
• up to 500 V for current peak value n=20 rated value	23.3 kVA
• up to 690 V for current peak value n=20 rated value	25 kVA
operating apparent power at AC-6a	0.4 10/4
• up to 230 V for current peak value n=30 rated value	8.1 kVA
 up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value 	14.2 kVA
 up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value 	14.2 kVA 15.5 kVA
 up to 230 V for current peak value n=30 rated value 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 	14.2 kVA
 up to 230 V for current peak value n=30 rated value 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 short-time withstand current in cold operating state up to 	14.2 kVA 15.5 kVA
 up to 230 V for current peak value n=30 rated value 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 short-time withstand current in cold operating state up to 40 °C 	14.2 kVA 15.5 kVA 21.5 kVA
 up to 230 V for current peak value n=30 rated value 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 short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum 	14.2 kVA 15.5 kVA 21.5 kVA 499 A; Use minimum cross-section acc. to AC-1 rated value
 up to 230 V for current peak value n=30 rated value 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 short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 5 s switching at zero current maximum 	14.2 kVA 15.5 kVA 21.5 kVA 499 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value
 up to 230 V for current peak value n=30 rated value 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 short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum 	 14.2 kVA 15.5 kVA 21.5 kVA 499 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value
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 up to 230 V for current peak value n=30 rated value 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 short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum at AC operating frequency at AC-1 maximum 	14.2 kVA 15.5 kVA 21.5 kVA 499 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value 5 000 1/h 1 000 1/h 750 1/h
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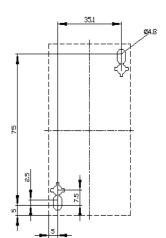
control supply voltage at AC	
• at 50 Hz rated value	110 V
• at 60 Hz rated value	110 V
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	81 VA
• at 60 Hz	79 VA
inductive power 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	10.5 VA
• at 60 Hz	8.5 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	27.4
at 480 V rated value	27 A
• at 600 V rated value	27 A
yielded mechanical performance [hp]	27 A
yielded mechanical performance [hp] • for single-phase AC motor	
yielded mechanical performance [hp]	27 A 2 hp 5 hp

• for 3 phase AC motor			
 for 3-phase AC motor — at 200/208 V rated value 	10 hp		
— at 220/230 V rated value	10 hp		
— at 460/480 V rated value			
— at 575/600 V rated value	20 hp 25 hp		
contact rating of auxiliary contacts according to UL	A600 / P600		
Short-circuit protection	A0007 P000		
design of the fuse link			
-			
 for short-circuit protection of the main circuit — with type of coordination 1 required 	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)		
— with type of assignment 2 required	gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V,80kA)		
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)		
Installation/ mounting/ dimensions	90. 10 A (000 V, 1 M)		
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and		
mounting position	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	85 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 	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 (1 2.5 mm²), 2x (2.5 10 mm²)		
 solid or stranded 	2x (1 2.5 mm²), 2x (2.5 10 mm²)		
 finely stranded with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²		
connectable conductor cross-section for main contacts			
• solid	1 10 mm²		
stranded	1 10 mm ²		
 finely stranded with core end processing 	1 10 mm²		
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 mm²		
type of connectable conductor cross-sections			
 for auxiliary contacts 			
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)		
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)		
 for AWG cables for auxiliary contacts 	2x (20 16), 2x (18 14)		
AWG number as coded connectable conductor cross			
section	10 0		
for main contacts	16 8		

 for auxiliary cor 	ntacts	2	20 14			
Safety related data						
product function						
 mirror contact a 	according to IEC 60947-4-1	Y	′es			
	suitability for use safety-related switching OFF		′es			
•	B10 value with high demand rate according to SN 31920		450 000			
	proportion of dangerous failures					
	nd rate according to SN 319	20 4	0 %			
	nd rate according to SN 319		3 %			
-	ow demand rate according		00 FIT			
	t interval or service life acco		20 a			
61508						
protection class IP of	on the front according to I	EC 60529	IP20			
touch protection on	the front according to IEC	60529 fi	inger-safe, for vertical contact	from the front		
Certificates/ approvals	s					
General Product Ap	proval					
() E	<u>Confirmation</u>			KC	EHC	
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Co	nformity	Test Certificates		
RCM	<u>Type Examination Cer-</u> tificate	UK CA	CE EG-Konf.	<u>Type Test Certific-</u> ates/Test Report	Special Test Certific- ate	
Marine / Shipping						
ABS	B U R E A U V E R I T A S		Lloyd's Register urs		RMRS	
other			Railway	Environment		
<u>Confirmation</u>	DE VDE	<u>Confirmation</u>	Vibration and Shock	Environmental Con- firmations		
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