# SIEMENS

#### Data sheet

## 3RT2028-2AB04



power contactor, AC-3e/AC-3, 38 A, 18.5 kW / 400 V, 3-pole, 24 V AC, 50 Hz, auxiliary contacts: 2 NO + 2 NC, spring-loaded terminal, size: S0, removable auxiliary switch

product brand name	SIRIUS		
product designation	Power contactor		
product type designation	3RT2		
General technical data			
size of contactor	S0		
product extension			
<ul> <li>function module for communication</li> </ul>	No		
<ul> <li>auxiliary switch</li> </ul>	No		
power loss [W] for rated value of the current			
<ul> <li>at AC in hot operating state</li> </ul>	9.6 W		
<ul> <li>at AC in hot operating state per pole</li> </ul>	3.2 W		
<ul> <li>without load current share typical</li> </ul>	2.5 W		
type of calculation of power loss depending on pole	quadratic		
insulation voltage			
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V		
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V		
surge voltage resistance			
<ul> <li>of main circuit rated value</li> </ul>	6 kV		
<ul> <li>of auxiliary circuit rated value</li> </ul>	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 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)			
<ul> <li>of contactor typical</li> </ul>	10 000 000		
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000		
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000		
reference code according to IEC 81346-2	Q		
Substance Prohibitance (Date)			
Weight	0.502 kg		
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 %		

Environmental footprint	
Environmental Product Declaration(EPD)	Yes
Global Warming Potential [CO2 eq] total	74.2 kg
Global Warming Potential [CO2 eq] during manufacturing	1.9 kg
Global Warming Potential [CO2 eq] during operation	72.4 kg
Global Warming Potential [CO2 eq] after end of life	-0.117 kg
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
<ul> <li>at AC-3e rated value maximum</li> </ul>	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	50 A
<ul> <li>at AC-1</li> <li>— up to 690 V at ambient temperature 40 °C rated</li> </ul>	50 A
value — up to 690 V at ambient temperature 60 °C rated value	42 A
• at AC-3	
— at 400 V rated value	38 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-3e	
— at 400 V rated value	38 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	31.5 A
● at AC-6a	
— up to 230 V for current peak value n=20 rated value	30.8 A
<ul> <li>— up to 400 V for current peak value n=20 rated value</li> </ul>	30.8 A
— up to 500 V for current peak value n=20 rated value	30.8 A
<ul> <li>— up to 690 V for current peak value n=20 rated value</li> <li>at AC-6a</li> </ul>	21 A
<ul> <li>at AC-ba</li> <li>— up to 230 V for current peak value n=30 rated value</li> </ul>	20.5 A
— up to 400 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	21.4 A
— up to 690 V for current peak value n=30 rated value	21 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm <sup>2</sup>
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

<ul> <li>with 3 current paths in series at DC-1</li> </ul>				
— at 24 V rated value	35 A			
— at 60 V rated value	35 A			
— at 110 V rated value				
— at 220 V rated value	35 A 35 A			
— at 440 V rated value				
— at 600 V rated value	2.9 A 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	1A			
— 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	11 kW			
— at 400 V rated value	18.5 kW			
— at 500 V rated value	18.5 kW			
— at 690 V rated value	18.5 kW			
• at AC-3e				
— at 230 V rated value	11 kW			
— at 400 V rated value	18.5 kW			
— at 500 V rated value	18.5 kW			
— at 690 V rated value	18.5 kW			
operating power for approx. 200000 operating cycles at AC-				
4				
• at 400 V rated value	6 kW			
• at 690 V rated value	10.3 kW			
operating apparent power at AC-6a				
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	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	26.6 kVA			
up to 690 V for current peak value n=20 rated value	25 kVA			
operating apparent power at AC-6a				
up to 230 V for current peak value n=30 rated value	8.1 kVA			
• up to 400 V for current peak value n=30 rated value	14.2 kVA			
up to 500 V for current peak value n=30 rated value	18.5 kVA			
up to 690 V for current peak value n=30 rated value	25 kVA			
short-time withstand current in cold operating state up to 40 °C				
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	593 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	341 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	260 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	199 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	162 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	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	AC
control supply voltage at AC	AC
	24 V
at 50 Hz rated value	24 V
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
apparent pick-up power of magnet coil at AC	
• at 50 Hz	77 VA
inductive power factor with closing power of the coil	
	0.00
• at 50 Hz	0.82
apparent holding power of magnet coil at AC	0.01/4
• at 50 Hz	9.8 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
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	2
contact	
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value	6 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	
<ul> <li>at 24 V rated value</li> </ul>	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	6.4
	6 A
at 48 V rated value	2 A 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	34 A
• at 600 V rated value	27 A
yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	

at 110/120 V/ rated value	2 hz			
- at 110/120 V rated value	3 hp			
— at 230 V rated value	5 hp			
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	25 hp			
— at 575/600 V rated value	25 hp			
contact rating of auxiliary contacts according to UL	A600 / Q600			
Short-circuit protection				
design of the fuse link				
<ul> <li>for short-circuit protection of the main circuit</li> </ul>				
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)			
<ul> <li>— with type of assignment 2 required</li> </ul>	gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)			
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	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			
height	102 mm			
width	45 mm			
depth	144 mm			
required spacing				
<ul> <li>with side-by-side mounting</li> </ul>				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	0 mm			
<ul> <li>for grounded parts</li> </ul>				
— 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 (1 10 mm²)			
— solid — solid or stranded				
<ul> <li>— finely stranded with core end processing</li> </ul>	2x (1 10 mm²) 2x (1 6 mm²)			
<ul> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul>	$2x (1 6 mm^2)$			
for AWG cables for main contacts				
	2x (18 8)			
connectable conductor cross-section for main contacts	$1  10 \text{ mm}^2$			
• solid	1 10 mm <sup>2</sup>			
stranded	1 10 mm <sup>2</sup>			
finely stranded with core end processing	1 6 mm <sup>2</sup>			
finely stranded without core end processing	1 6 mm²			
connectable conductor cross-section for auxiliary contacts				
solid or stranded	0.5 2.5 mm <sup>2</sup>			
finely stranded with core end processing	0.5 1.5 mm <sup>2</sup>			
finely stranded without core end processing	0.5 2.5 mm²			
type of connectable conductor cross-sections				
<ul> <li>for auxiliary contacts</li> </ul>				

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<ul> <li>- Imply stranded willow does end processing 2x (0.5. 2.5 mm<sup>2</sup>)</li> <li>- So AWG cables for auxiliary contacts</li> <li>- Contrain contacts<td></td><td></td><td colspan="2"></td><td colspan="3"></td></li></ul>								
• or AVNG calebas transling contacts       2x (2014)         Marge muther according to economic table conductor cross	2	•						
AWG number as coded connectable conductor cross section       188         • for main contracts       2014         Safety related data       014         product function       198         • infor contract according to EC 60947-4-1       Yes         • statistic contract according to EC 60947-5-1       Yes         • statistic contract according to SN 3120       40.%         • statistic contract according to SN 3120       40.%         • with high demand rate according to SN 3120       40.%         • with high demand rate according to SN 3120       40.%         • with high demand rate according to SN 3120       40.%         • with high demand rate according to SN 3120       40.%         • with high demand rate according to SN 3120       40.%         • with high demand rate according to SN 3120       40.%         • with high demand rate according to SN 3120       50.00000         failure alse Firly with low demand rate according to EC 60529       P20         tore for taccording to EC 60529       P20	-	-						
- for auxiliary contacts       2014         States related data	AWG number as coded connectable conductor cross		2x (20 14)					
Staty related data         Product function           infirer contact according to EC 60947-4-1         Yes           isualizable for stately uncload         No           isualizable for stately uncload         Yes           suitable for stately uncload         20 a           istate war-folded switching OFF         Yes           service life maximum         20 a           istative arrivable for maximum         20 a           istative arrivable for maximum         20 a           istative arrivable for maximum         20 a           istative arrivable device life necessary         Yes           proportion of dangerous failures         40 %           istite war-related seconding to SN 1920         40 %           istite war-related seconding to SN 1920         100 000           failur rate FITI with low demand rate according to SN 1920         100 000           failur rate FITI with low demand rate according to SO 1349-2 necessary         Yes           EC6 61508         astety device type according to IEC 6169-2         Type A           Electrical Safely         protection cas IP on the front according to IEC 60629         IP20           fouch protection cas IP on the front according to IEC 60629         IP20         Ip20           fouch protection cas IP on onte front according to IEC 60629         IP20<	<ul> <li>for main contacts</li> </ul>			18	8			
Safety related data     product function          infiror contact according to EC 60947-6-1       is usuable for safety function       is used to dive type according to ISO 13849-2 mecessary       is used to dive type according to ISO 13849-2 mecessary       is used to dive type according to ISO 13849-2 mecessary       is used to dive type according to ISO 13849-2 mecessary       is used to dive to the front according to IEC 60829       index according to ISC 60829       index       is used to dive the front according to ISC 60829       is used to dive the fort       is used to dis the fort       is used to dive the	<ul> <li>for auxiliary containing</li> </ul>	icts		20	14			
product function     • minor contact according to IEC 60947-6-1     Yes       • positive/diver operation according to IEC 60947-6-1     No       • suitability for use stelly-related switching OFF     Yes       service life maximum     20 a       test wear-related service life necessary     Yes       proportion of dangerous failures     40 %       • with low demand rate according to SN 31920     40 %       • with low demand rate according to SN 31920     73 %       Bit 0 value with high demand rate according to SN 31920     1000 D00       failure aset     100 FIT       300 13849     device type according to ISO 13849-1     3       overdimensioning according to ISO 13849-2 necessary     Yes       Electical Safety     protection class IP on the front according to IEC 60529     IP20       100 FIT     20 a     Imge-safe, for vertical contact from the front       Approvals Cardinations     Cardination     KC       Cardination     Ever     Imge-safe, for vertical contact from the front       Approvals Cardinations     Imge-safe, for vertical contact from the front       Approvals     Ever     Imge-safe, for vertical contact from the front       Approvals     Ever     Imge-safe, for vertical contact from the front       Approvals     Ever     Imge-safe, for vertical contact from the front       Approvals     <	,							
<ul> <li>mirror contact according to EC 60947-5-1 No</li> <li>suitable for each function</li> <li>suitability for use safely-related switching OFF</li> <li>yes</li> <li>with high demand rate according to SN 1920</li> <li>do no noo</li> <li>for any arrow fail area</li> <li>over financiant get FTI with low demand rate according to SN 1920</li> <li>100 FTF</li> <li>State and rate according to SN 1920</li> <li>100 FTF</li> <li>State and rate according to SN 1920</li> <li>100 FTF</li> <li>State and rate according to SN 1920</li> <li>100 FTF</li> <li>State and rate according to SN 1920</li> <li>100 FTF</li> <li>State and rate according to SN 1920</li> <li>100 FTF</li> <li>State and rate according to SN 1920</li> <li>100 FTF</li> <li>State and rate according to SN 1920</li> <li>representation according to ISC 19349-1</li> <li>state according to ISC 19349-2 necessary</li> <li>Yes</li> <li>representation on the front according to IEC 60529</li> <li>inger.safe, for vertical contact from the front</li> <li>according to ISC 60529</li> <li>inger.safe, for vertical contact from the front</li> <li>according to ISC 60529</li> <li>inger.safe, for vertical contact from the front</li> <li>according to ISC 60529</li> <li>inger.safe, for vertical contact from the front</li> <li>according to ISC 60529</li> <li>inger.safe, for vertical contact from the front</li> <li>according to ISC 60529</li> <li>inger.safe, for vertical</li></ul>								
<ul> <li>expetively driven operation according to ECE 60947-5-1 <ul> <li>usubale for safety function</li></ul></li></ul>	•	cording to IEC 60947-4-	.1	Yes				
• suitable for safety function     Yes       suitability for use safety related switching OFF     Yes       estivation     20 a       test wear-related service life necessary     Yes       propertion of diagnous failures     40 %       • with low demand rate according to SN 31920     40 %       • with low demand rate according to SN 31920     73 %       B10 value with low demand rate according to SN 31920     73 %       1000 000     failure rate (FTI) with low demand rate according to SN 31920     1000 1000       13920     40 %		-						
subability for use safety-related switching OFF     Yes       service life maximum     20 a       service life maximum     20 a       iset wave-related service life necessary     Yes       proportion of dangerous failures     40 %       • with high demand rate according to SN 31920     40 %       • with high demand rate according to SN 31920     1000 000       failure rate fifty with low demand rate according to SN 31920     1000 000       failure rate fifty with low demand rate according to SN 31920     1000 000       failure rate fifty with low demand rate according to SN 31920     1000 000       failure rate fifty with low demand rate according to ISO 13849-2 necessary     Yes       IEC 01508     safety device type according to ISO 13849-2 necessary     Yes       IEC 01508     safety device type according to ISO 13849-2 necessary     Yes       IEC 01508     safety device type according to IEC 6529     Ip20       touch protection on the front according to IEC 60529     Ip20       touch protection on the front according to IEC 60529     Ip20       touch protection on the front according to IEC 60529     Ip20       touch protection on the front according to IEC 60529     Ip20       Confirmation     Image: Safety device type according to IEC 60529     Ip20       Confirmation     Image: Safety device type according to IEC 60529     Ip20       C								
service life maximum       20 a         test wear-related service life necessary       Yes         proportion of dargeous failures       40 %         • with low demand rate according to SN 31220       40 %         • with high demand rate according to SN 31320       73 %         B10 value with high demand rate according to SN 31320       1300 0000         failure rate [FIT] with low demand rate according to SN 13820       73 %         Used with high demand rate according to SN 13820       100 DFIT         13820       40 %         evertimentationing according to ISO 13849-2 necessary       Yes         Used staff       100 DFIT         13820       100 DFIT         160 DFID EC 60529       Type A         Deproval       EC 0FID EC 60529         Contimation       EC 0529         Oproval       EWV         Marine								
test wear-related service life necessary     Yes       proportion of dangerous failures     40 %       • with holy demand rate according to SN 31920     73 %       B10 value with high demand rate according to SN 31920     1000 000       failure rate [T] with low demand rate according to SN 31920     1000 100       SN 13849     1000 100       device type according to ISO 13849-1     3       overdimensioning according to ISO 13849-2 necessary     Yes       EC6 1508     State rate [T] with low demand rate according to ISO 13849-2 necessary     Yes       EC6 1508     Safety device type according to ISO 13849-2 necessary     Yes       EC6 1508     Safety device type according to ISC 13849-2 necessary     Yes       EC6 1508     ISO 13849     1000 100       device type according to ISC 13849-2 necessary     Yes       EC6 1508     ISO 13849-2 necessary     Yes       EC6 1508     Isoch 13849-2 necessary     Yes       Eco Isola Pool to Approval     If C     If C       Confirmation     If C     If C       Confirmation     If C     If C       Eco Isola     If Venctional Safey     Test Certificates       Marine / Shipping     If Yee Examination Cerc     If Yee Examination Cerc       If C     If Safety Certificate     If Safety Certificate       Marine / Shipping<		related switching Of I						
proportion of dangerous failures     40 %       • with low demand rate according to SN 31920     73 %       BI 0 value with high demand rate according to SN 31920     1 000 000       failure rate [FT] with low demand rate according to SN 31920     1 000 000       failure rate [FT] with low demand rate according to SN 31920     1 000 100       failure rate [FT] with low demand rate according to SN 31920     1 000 100       failure rate [FT] with low demand rate according to SN 31920     3       iso 13349     3		an life manageme						
• with low demand rate according to SN 31920     40 %       • with ligh demand rate according to SN 31920     73 %       F10 value with ligh demand rate according to SN 31920     73 %       Storate     1000 000       failure rate [F17] with low demand rate according to SN 31920     3       device type according to ISO 13849-1     3       device type according to ISO 13849-1     3       overdimensioning according to ISO 13849-2 necessary     Yes       Electrical Safely     protection class IP on the front according to IEC 60529       protection class IP on the front according to IEC 60529     IP20       toutner to the front according to IEC 60529     IP20       toutner to the front according to IEC 60529     IP20       toutner to the front according to IEC 60529     IP20       toutner to the front according to IEC 60529     IP20       toutner to the front according to IEC 60529     IP20       toutner to the front according to IEC 60529     IP20       toutner to the front according to IEC 60529     Inger-safe, for vertical contact from the front       Approval     Exercit     Image: Safet, for vertical contact from the front       Confirmation     Image: Safet, for vertical contact from the front     Image: Safet, for vertical contact from the front       Confirmation     Image: Safet, for vertical contact from the front     Image: Safet, for vertical contact from the front </td <td></td> <td></td> <td></td> <td>res</td> <td></td> <td></td> <td></td>				res				
• with high demand rate according to SN 31920     73 %       BT0 value with high demand rate according to SN 31920     1000 000       States rate FTP with low demand rate according to SN 31920     100 FTT       States rate FTP with low demand rate according to SN 31920     100 FTT       States rate FTP with low demand rate according to SN 31920     3       Version     3       overdimensioning according to ISO 13849-1     3       overdimensioning according to ISO 13849-2 necessary     Yes       IEC 61508     Safety device type according to ISO 13849-2 necessary     Yes       Description     IEC 61508     Safety device type according to IEC 61509-2     IP20       touch protection on the front according to IEC 60529     IP20     Inger-safe, for vertical contact from the front       Approvala Cortificates     General Product Approval     IEC 61508     IEC 61508       Confirmation     Image: Safety device type according to IEC 60529     Inger-safe, for vertical contact from the front       Confirmation     Image: Safety device type according to IEC 60529     Inger-safe, for vertical contact from the front       Confirmation     Image: Safety device type according to IEC 60529     Inger-safe, for vertical contact from the front       Confirmation     Image: Safety device type according to IEC 60529     Inger-safe, for vertical contact from the front       Confirmation     Image: Safety device type according to IEC 60				40.04				
B10 value with high demand rate according to SN 31920       1 000 000         failure rate [FI] with low demand rate according to SN       100 FIT         ISO 13849       100 FIT         device type according to ISO 13849-1       3         overdimensioning according to ISO 13849-2 necessary       Yes         IEC 61508       safety device type according to IEC 61508-2       Type A         Electrical Safety       Protection class IP on the front according to IEC 60529       IP20         Toto protection on the front according to IEC 60529       Inger-safe, for vertical contact from the front         Approvals       Confirmation       Confirmation       KC         General Product Aproval       ENV       Functional Safty       Marine / Shipping         Finder Shipping       ENV       Functional Safty       Tost Certificates       Marine / Shipping         Marine / Shipping       Environment       Environment       Environment       Environmental Confirmation         ENV       Functional Safty       Tost Certificates       Special Test Certificates       Marine / Shipping         Marine / Shipping       Environment       Environment       Environmental Confirmation       Special Test Certificates       Special Test Certificates         Marine / Shipping       Environmental Confirmation       Special Test Certificates <td></td> <td>÷</td> <td></td> <td></td> <td></td> <td></td> <td></td>		÷						
failure rate [FIT] with low demand rate according to SN     100 FIT       31320     100 FIT       SiS 13349     3       device type according to ISO 13849-1     3       overdimensioning according to ISO 13849-2 necessary     Yes       Electrino     Safety device type according to ISO 13849-2 necessary     Yes       Electrino     Safety device type according to ISC 60529     Type A       Electrino class IP on the front according to IEC 60529     Inger-safe, for vertical contact from the front       Approvals Certificates     General Product Approval     Effect       Confirmation     Effect     Functional Safety     Inger-safe, for vertical contact from the front       Provals Certificates     Effect     Inger-safe, for vertical contact from the front     Social Test Certificates       General Product Approval     Effect     Inger-safe, for vertical contact from the front     Social Test Certificates       Marine / Shipping     Inger Examination Cerc     Inger Examination Cerc     Inger Itest Certificates       Marine / Shipping     Inger Examination Cerc     Inger Itest Certificates     Special Test Certificate       Marine / Shipping     Inger Itest Certificate     Inger Itest Certificates     Inger Itest Certificates       Imarine / Shipping     Inger Itest Certificate     Inger Itest Certificates     Inger Itest								
31920		-						
device type according to ISO 13849-1       3         overdimensioning according to ISO 13849-2 necessary       Yes         IEC 61508       safety device type according to IEC 61508-2       Type A         Electrical Safety       protection class IP on the front according to IEC 60529       IP20         protection class IP on the front according to IEC 60529       IP20       figer-safe, for vertical contact from the front         Approvals       General Product Approval       ECC       EEC       EG 61508         Confirmation       EMV       Functional Saftey       Test Certificates       Marine / Shipping         EEEE       ENV       Functional Saftey       Type Test Certificates       Marine / Shipping         Marine / Shipping       Environmental Continuation       Environmental Conter       Special Test Certificates       Marine / Shipping         Marine / Shipping       Event       Event       Event       Event       Event       Event         Event       Event       Event       Event       Event       Special Test Certificates       Marine / Shipping         Event       Event       Event       Event       Event       Event       Event       Event         Event       Event       Event       Event       Event       Event       Event		ow demand rate accor	ding to SN	100 F	IT			
overdimensioning according to ISO 13849-2 necessary       Yes         IEC 61508       safety device type according to IEC 61508-2       Type A         Electrical Safety       protection class IP on the front according to IEC 60529       IP20         touch protection on the front according to IEC 60529       Inge-safe, for vertical contact from the front         Approvals Confirmation       Image-safe, for vertical contact from the front         Image-safe, for vertical contact from the front       Image-safe, for vertical contact from the front         Confirmation       Image-safe, for vertical contact from the front         Image-safe, for vertical contact from the front       Image-safe, for vertical contact from the front         Image-safe, for vertical contact from the front       Image-safe, for vertical conta	ISO 13849							
IEC 61508         safety device type according to IEC 61508-2       Type A         Electrical Safety       protection class IP on the front according to IEC 60529       IP20         touch protection on the front according to IEC 60529       Inger-safe, for vertical contact from the front         Approvals Cortificates       General Product Approval       ECC         Confirmation       EMV       Functional Safety       Test Certificates         Marine / Shipping       If general Product Approval       Marine / Shipping         EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	device type according	to ISO 13849-1		3				
IEC 61508         safety device type according to IEC 61508-2       Type A         Electrical Safety       protection class IP on the front according to IEC 60529       IP20         touch protection on the front according to IEC 60529       Inger-safe, for vertical contact from the front         Approvals Cortificates       General Product Approval       ECC         Confirmation       EMV       Functional Safety       Test Certificates         Marine / Shipping       If case       Type Examination Case       Special Test Certificates         Marine / Shipping       If case       Type Examination Case       Type Test Certificates       Marine / Shipping         Marine / Shipping       If case	overdimensioning acc	ording to ISO 13849-2	necessary	Yes				
Electrical Safety         protection class IP on the front according to IEC 60529       IP20         fouch protection on the front according to IEC 60529       finger-safe, for vertical contact from the front         Approvals       Ceneral Product Approval       IFEC         Ceneral Product Ap- proval       EMV       Functional Safety       IFES Certificates         Marine / Shipping       Ifficate       Type Examination Cer- tificate       Type Test Certific- ates/Test Report       Special Test Certific- ate         Marine / Shipping       Ifficate       Ifficate       Ifficate       Miscellaneous         Marine / Shipping       Ifficate       Ifficate       Ifficate       Miscellaneous         Marine / Shipping       Ifficate       Ifficate       Ifficate       Ifficate       Miscellaneous         Ifficate       Ifficate<	IEC 61508							
Electrical Safety         protection class IP on the front according to IEC 60529       IP20         fouch protection on the front according to IEC 60529       finger-safe, for vertical contact from the front         Approvals       Ceneral Product Approval       IFEC         Ceneral Product Ap- proval       EMV       Functional Safety       IFES Certificates         Marine / Shipping       Ifficate       Type Examination Cer- tificate       Type Test Certific- ates/Test Report       Special Test Certific- ate         Marine / Shipping       Ifficate       Ifficate       Ifficate       Miscellaneous         Marine / Shipping       Ifficate       Ifficate       Ifficate       Miscellaneous         Marine / Shipping       Ifficate       Ifficate       Ifficate       Ifficate       Miscellaneous         Ifficate       Ifficate<	safety device type acc	ording to IEC 61508-2		Туре	A			
touch protection on the front according to IEC 60529       finger-safe, for vertical contact from the front         Approvals Certificates       General Product Approval       ECC         Confirmation       EMV       Functional Saftey       Test Certificates         General Product Approval       EMV       Functional Saftey       Test Certificates         Marine / Shipping       Improval       Type Examination Certificate       Special Test Certificate         Marine / Shipping       Improval       Type Examination Certificate       Special Test Certificate         Marine / Shipping       Improval       Improval       Special Test Certificate         Improval       Improval       Improval       Improval         Improval       Improval       Improval       Improval         Improval       Improval       Improval       Improval         Improval       Improval       Improval       Improval         Improval       Improval       Improval       Improval       Improval         Improval       Improval       Improval       Improval       Improval       Improval         Improval       Improval       Improval       Improval       Improval       Improval       Improval         Improval       Improval       Improval								
Iteration       Image: safe, for vertical contact from the front         Approvals Certificates       General Product Approval       Image: safe, for vertical contact from the front         Confirmation       Image: safe, for vertical contact from the front       Image: safe, for vertical contact from the front         Ceneral Product Approval       Image: safe, for vertical contact from the front       Image: safe, for vertical contact from the front         General Product Approval       Image: safe, for vertical contact from the front       Image: safe, for vertical contact from the front         General Product Approval       Image: safe, for vertical contact from the front       Image: safe, for vertical contact from the front         General Product Approval       Image: safe, for vertical contact from the front       Image: safe, for vertical contact from the front         General Product Approval       Image: safe, for vertical contact from the front       Image: safe, for vertical contact from the front         General Product Approval       Image: safe, for vertical contact from the front       Image: safe, for vertical contact from the front         Image: safe, for vertical contact Approval       Image: safe, for vertical contact from the front       Image: safe, for vertical contact from the front         Image: safe, for vertical contact Approval       Image: safe, for vertical contact from the front       Image: safe, for vertical contact from the front         Image: safe, for vertical contact Appro		the front according to	IEC 60529	IP20				
Approvals Certificates         General Product Approval       KC         Confirmation       Confirmation       Confirmation       KC         General Product Approval       EMV       Functional Saftey       Test Certificates       Marine / Shipping         Central Product Approval       EMV       Functional Saftey       Test Certificates       Marine / Shipping         Central Product Approval       EMV       Functional Saftey       Type Test Certificates       Special Test Certificates       Marine / Shipping         Marine / Shipping       Confirmation       Confirmation Cercuiticate       Type Test Certificate       Special Test Certificate       Other         Marine / Shipping       Image: Special Test Certificate       Special Test Certificate       Other         Marine / Shipping       Image: Special Test Certificate       Image: Special Test Certificate       Image: Special Test Certificate       Image: Special Test Certificate         Image: Special Test Certificate       Image: Special Test Certificate       Image: Special Test Certificate       Image: Special Test Certificate       Image: Special Test Certificate         Image: Special Test Certificate       Image: Special Test Certificate       Image: Special Test Certificate       Image: Special Test Certificate         Image: Special Test Certificate       Image: Special Test	-			finaer	-safe. for vertical contact	from the front		
General Product Approval       LIKE		<b>.......</b>		<u> </u>	,			
Ceneral Product Ap- proval EMV Functional Saftey Test Certificates Marine / Shipping   Image: Constraint on Certification Certificati		oval						
proval       Environmental Con-firmation       Punctional statey       Type Test Certific- ates/Test Report       Special Test Certific- ate       Special Test Cert	<u>Confirmation</u>		UK CA	Ì	CE EG-Konf.		KC	
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Confirmation Confirmation Special Test Certific- Environmental Con-	B UREAU VERITAS		PRS		RINA	RMRS RARS	<u>Miscellaneous</u>	
	other		Railway		Environment			
EPD	<u>Confirmation</u>	<u>Confirmation</u>	<u>Special Test Ce</u> <u>ate</u>	<u>ertific-</u>	EPD	Environmental Con- firmations		

## Further information

#### 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/Catalog/product?mlfb=3RT2028-2AB04 Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2028-2AB04 Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-2AB04 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

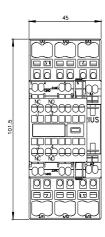
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2028-2AB04&lang=en

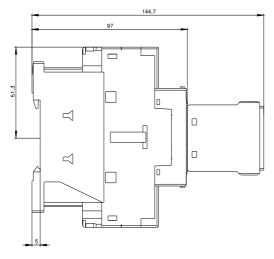
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

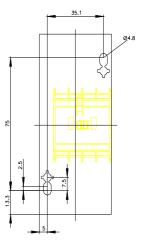
https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-2AB04/char

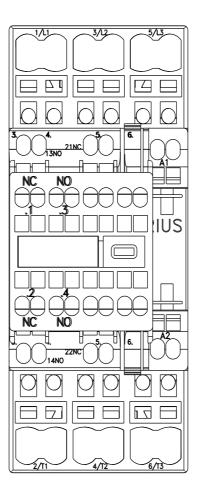
Further characteristics (e.g. electrical endurance, switching frequency)

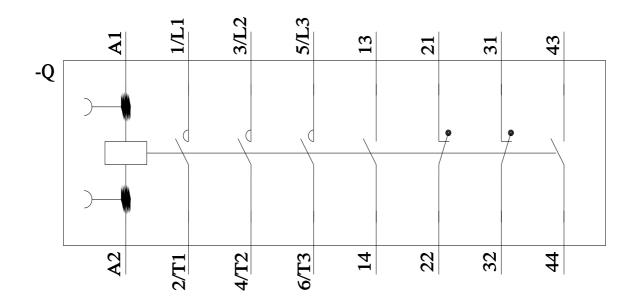
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2028-2AB04&objecttype=14&gridview=view1











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