SIEMENS

Data sheet 3TK2830-1AL20



SIRIUS safety relay with relay enabling circuits (EC) 230 V AC, 22.5 mm Screw terminal EC instantaneous: 4 NO EC delayed: 0 MK for retraction: 1 Expansion unit Maximum achieved SIL / PL: as basic unit

Figure similar

product brand name product designation design of the product SIRIUS safety relays extension unit

General technical data

protection class IP of the enclosure protection class IP of the terminal touch protection against electrical shock insulation voltage rated value ambient temperature

- during storage
- during operation

air pressure according to SN 31205 relative humidity during operation installation altitude at height above sea level maximum

vibration resistance according to IEC 60068-2-6 shock resistance

surge voltage resistance rated value

EMC emitted interference

installation environment regarding EMC

reference code according to DIN 40719 extended according to IEC 204-2 according to IEC 750 reference code according to EN 61346-2 design of the cascading product feature cross-circuit-proof Safety Integrity Level (SIL)

according to IEC 61508

SIL Claim Limit (subsystem) according to EN 62061 category according to EN ISO 13849-1 hardware fault tolerance according to IEC 61508 safety device type according to IEC 61508-2

PFHD with high demand rate according to EN 62061 Average probability of failure on demand (PFDavg)

T1 value for proof test interval or service life according to IEC 61508

with low demand rate acc. to IEC 61508

number of outputs as contact-affected switching element

- as NC contact
 - for signaling function instantaneous contact

IP40 IP20 finger-safe 300 V

-40 ... +80 °C -25 ... +60 °C 90 ... 106 kPa 10 ... 95 % 2 000 m

5 ... 500 Hz: 0,075 mm

8g / 10 ms 4 000 V EN 60947-5-1

This product is suitable for Class A environments only. In household environments, this device can cause unwanted radio interference. The user is required to implement appropriate measures in this case.

кT

F none No

Type A

0.000000012 1/h 0.000001 1/y

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DC resistance of the cable maximum wire length between sensor and electronics evaluation device with Cu 1.5 mm² and 150 nF/km maximum Times make time with automatic start		gL/gG: 6 A, or quick: 10 A
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make time with automatic start • at AC maximum make time with automatic start after power failure • maximum backslide delay time in the event of power failure • maximum recovery time after power failure typical Control circuit/ Control type of voltage of the control supply voltage control supply voltage frequency • 1 rated value • 2 rated value • 2 rated value control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil		
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make time with automatic start after power failure • maximum backslide delay time in the event of power failure • maximum recovery time after power failure typical 120 ms Control circuit/ Control type of voltage of the control supply voltage control supply voltage frequency • 1 rated value • 2 rated value • 2 rated value control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil	make time with automatic start	
maximum backslide delay time in the event of power failure maximum 80 ms recovery time after power failure typical Control circuit/ Control type of voltage of the control supply voltage control supply voltage frequency 1 rated value 2 rated value 2 rated value 30 Hz control supply voltage 1 at AC at 50 Hz rated value at 60 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil 200 ms 80 ms AC Control circuit/ Control 120 ms AC 60 Hz 60 Hz 230 V 230 V 230 V	at AC maximum	200 ms
backslide delay time in the event of power failure • maximum recovery time after power failure typical 120 ms Control circuit/ Control type of voltage of the control supply voltage control supply voltage frequency • 1 rated value • 2 rated value • 2 rated value control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil	make time with automatic start after power failure	
maximum recovery time after power failure typical Control circuit/ Control type of voltage of the control supply voltage	• maximum	200 ms
recovery time after power failure typical Control circuit/ Control type of voltage of the control supply voltage AC control supply voltage frequency 1 rated value 50 Hz 2 rated value 60 Hz control supply voltage 1 at AC at 50 Hz rated value 230 V operating range factor control supply voltage rated value of magnet coil	backslide delay time in the event of power failure	
type of voltage of the control supply voltage control supply voltage frequency 1 rated value 2 rated value 60 Hz control supply voltage 1 at AC at 50 Hz rated value 230 V at 60 Hz rated value 230 V operating range factor control supply voltage rated value of magnet coil		80 ms
type of voltage of the control supply voltage control supply voltage frequency 1 rated value 2 rated value 60 Hz control supply voltage 1 at AC at 50 Hz rated value 230 V at 60 Hz rated value 230 V operating range factor control supply voltage rated value of magnet coil	recovery time after power failure typical	120 ms
control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil	Control circuit/ Control	
 1 rated value 2 rated value 60 Hz control supply voltage 1 at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil 	type of voltage of the control supply voltage	AC
2 rated value control supply voltage 1 at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil	control supply voltage frequency	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil	1 rated value	50 Hz
 at 50 Hz rated value at 60 Hz rated value 230 V operating range factor control supply voltage rated value of magnet coil 	• 2 rated value	60 Hz
• at 60 Hz rated value 230 V operating range factor control supply voltage rated value of magnet coil	control supply voltage 1 at AC	
operating range factor control supply voltage rated value of magnet coil		
value of magnet coil		230 V
- of AC	-	
• at AC	● at AC	

— at 50 Hz 0.85 ... 1.1 0.85 ... 1.1 - at 60 Hz Installation/ mounting/ dimensions mounting position anv fastening method screw and snap-on mounting width 22.5 mm height 120 mm depth 120 mm Connections/ Terminals type of electrical connection screw-type terminals type of connectable conductor cross-sections 1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²) solid finely stranded - with core end processing 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²) type of connectable conductor cross-sections at AWG cables 2x (20 ... 14) stranded 2x (20 ... 14) **Product Function** product function · light barrier monitoring No standstill monitoring No • protective door monitoring No • automatic start Nο • magnetically operated switch monitoring NC-NO Nο rotation speed monitoring No · laser scanner monitoring No monitored start-up No · light array monitoring No • magnetically operated switch monitoring NC-NC No • EMERGENCY OFF function No • pressure-sensitive mat monitoring No suitability for interaction press control No suitability for use safety switch Yes · position switch monitoring No • EMERGENCY-OFF circuit monitoring No valve monitoring No · tactile sensor monitoring No • magnetically operated switch monitoring No • safety-related circuits No Certificates/ approvals certificate of suitability BG, SUVA, UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508 • TÜV (German technical inspectorate) certificate Yes • UL approval Yes BG BIA approval No **Functional General Product Approval EMC** Safety/Safety of Machinery Type Examination











Type Examination
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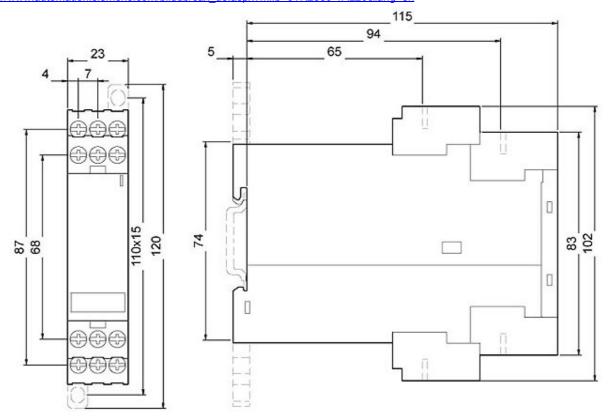
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