SIEMENS

Data sheet

3TK2810-1BA41-0AA0



SIRIUS SAFETY RELAY SAFETY-RELATED SPEED MONITORING, 24 V DC, 45.0 MM, SCREW-TYPE CONNECTION, ENABLING CIRCUIT INSTANTANEOUS:2NO, ENABLING CIRCUIT DELAYED: 0, SIGNALING CIRCUIT: 2 ELECTRICAL, NAMUR VERSION, AUTO START / MANUAL START, BASIC UNIT, MAX. ERR. PL EN13849-1: E, MAX. ERR. SIL TO IEC61508:3,

General technical data:		
product brand name		SIRIUS
Product designation	_	safety relays
Design of the product	_	standstill and speed monitoring
Protection class IP of the enclosure	_	IP20
Protection class IP of the terminal	_	IP20
Protection against electrical shock	_	finger-safe
Insulation voltage Rated value	V	300
Ambient temperature	_	
 during storage 	°C	-20 +70
 during operation 	°C	0 60
Air pressure acc. to SN 31205	kPa	90 106
Relative humidity during operation	%	10 95
Installation altitude at height above sea level	m	2 000
maximum		
Vibration resistance acc. to IEC 60068-2-6		10 55 Hz: 0.35 mm
Shock resistance		8g / 10 ms
Surge voltage resistance Rated value	V	4 000
EMC emitted interference	_	EN 60947-5-1
Installation environment regarding EMC		This product is suitable for Class A environments only. It can cause undesired radio-frequency interference in residential environments. If this is the case, the user must take appropriate measures.
Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750		КТ
Equipment marking acc. to DIN EN 61346-2		F

Number of sensor inputs		
• 2-channel		3
 1-channel or 2-channel 		0
Design of the cascading	-	none
Type of the safety-related wiring of the inputs	_	single-channel or two-channel
Product property cross-circuit-proof	_	Yes
Safety Integrity Level (SIL)	-	
• acc. to IEC 61508		SIL3
 for delayed release circuit acc. to IEC 61508 		SIL3
SIL Claim Limit (subsystem) acc. to EN 62061	_	3
Performance level (PL)	_	
• acc. to EN ISO 13849-1		е
 for delayed release circuit acc. to EN ISO 13849-1 		е
Category acc. to EN 954-1		4
Category acc. to EN ISO 13849-1		4
Hardware fault tolerance acc. to IEC 61508		1
Safety device type acc. to IEC 61508-2		Туре В
PFHD with high demand rate acc. to EN 62061	1/h	0.000000034
T1 value for proof test interval or service life acc. to IEC 61508	У	20
Number of outputs as contact-affected switching element		
• as NC contact		
 for signaling function instantaneous contact 		0
— for signaling function delayed switching		0
— safety-related instantaneous contact		0
— safety-related delayed switching		0
 as NO contact 		
 for signaling function instantaneous contact 		0
— for signaling function delayed switching		0
— safety-related instantaneous contact		1
— safety-related delayed switching		1
Number of outputs as contact-less semiconductor switching element		
• safety-related		
— delayed switching		0
— instantaneous contact		0
 for signaling function 		
— delayed switching		1

Stop category acc. to DIN EN 60204-1		0
General technical data:		
Design of input		
 cascading input/functional switching 		No
 feedback input 		Yes
• Start input		Yes
Type of electrical connection Plug-in socket		Yes
Switching capacity current		
 of semiconductor outputs 		
— for signaling function at DC-13 at 24 V	А	0.02
 of the NO contacts of the relay outputs 		
— at DC-13		
— at 24 V	А	2
— at AC-15		
— at 24 V	А	3
— at 230 V	А	3
 of the NC contacts of the relay outputs 		
— at AC-15		
— at 24 V	А	3
— at 115 V	А	3
— at 230 V	А	2
Thermal current of the switching element with	А	5
contacts maximum		
Electrical endurance (switching cycles) typical		100 000
Mechanical service life (switching cycles) typical		50 000 000
Design of the fuse link for short-circuit protection of		gL/gG: 4 A
the NO contacts of the relay outputs required		
Control circuit/ Control:		
Type of voltage of the control supply voltage		DC
Control supply voltage 1		
for DC Rated value	V	24
Operating range factor control supply voltage rated		
value of the magnet coil		0.0 1.1
• for DC		0.9 1.1
Installation/ mounting/ dimensions:		
mounting position		any
Mounting type		screw and snap-on mounting
Width	mm	45
Height	mm	105.9
Depth	mm	124.3
Connections/ Terminals:		

Type of connectable conductor cross-section 0.5 4 mm² • solid 0.5 4 mm² • with core end processing 1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²) Type of connectable conductor cross-section for AWG conductors 2x (20 14) • solid 2x (20 14) • standed 2x (20 14) Product Function Yes Product function Yes • light barrier monitoring Yes • protective door monitoring Yes • angnetically operated switch monitoring NC- NO No • rotation speed monitoring Yes • light taray monitoring Yes • light aray monitoring No • magnetically operated switch monitoring NC- NC No • magnetically operated switch monitoring NC- NC No • magnetically operated switch monitoring NC- NC No • EMERCENCY OFF function Yes • Monitoring of floating sensors Yes • Monitoring of floating sensors Yes • Monitoring of floating sensors Yes • Monitoring of the monitoring No • pos	Type of electrical connection	screw-type terminals	
	Type of connectable conductor cross-section		
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International control No Imagenetically operated switch monitoring NC-NO No Isser scanner monitoring Yes Isser scanner monitoring No Isser scanner monitoring Yes Isser scanner monitoring No Isafety-related circuits Yes	 protective door monitoring 	Yes	
NO Yes • rotation speed monitoring Yes • laser scanner monitoring No • monitored start-up Yes • Light array monitoring No • magnetically operated switch monitoring NC-NC No • EMERGENCY OFF function Yes • Pressure-sensitive mat monitoring No • Monitoring of floating sensors Yes • Monitoring of non-floating sensors Yes • Monitoring of non-floating sensors No • safety switch Yes • position switch monitoring Yes • position switch monitoring Yes • safety switch Yes • position switch monitoring No • valve monitoring No • valve monitoring No • valve monitoring No • safety-related circuits Yes • cotificates of suitability Yes • tactile sensor monitoring No • safety-related circuits Yes	Automatic start	Yes	
Industry provide Itaker scanner monitoringNoItaker scanner monitoringNoItaker scanner monitoringYesLight array monitoringNoItaget scanner monitoringNoItaget scanner monitoringNoItaget scanner monitoringNoItaget scanner monitoringYesItaget scanner monitoring NC- NCYesItaget scanner monitoringYesItaget scanner monitoringNoSultability for interaction press controlNoSultability for useYesItaget scanner monitoringYesMonitoring of floating sensorsNoItaget scanner monitoringYesItaget scanner monitoringNoItaget scanner monitoringYesItaget scanner monitoringYesItaget scanner monitoring <td< td=""><td></td><td>No</td></td<>		No	
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• Monitoring of non-floating sensors No • safety switch Yes • position switch monitoring Yes • EMERGENCY-OFF circuit monitoring No • valve monitoring No • tactile sensor monitoring No • agnetically operated switch monitoring No • safety-related circuits Yes Certificates/ approvals: TÜV / IEC 61508 • TÜV (German technical inspectorate) certificate Yes	Suitability for use		
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• EMERGENCY-OFF circuit monitoring No • valve monitoring No • tactile sensor monitoring No • magnetically operated switch monitoring No • safety-related circuits Yes Certificate of suitability TÜV / IEC 61508 • TÜV (German technical inspectorate) certificate Yes	 safety switch 	Yes	
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Certificates/ approvals: Certificate of suitability • TÜV (German technical inspectorate) certificate • UL approval Yes	 magnetically operated switch monitoring 	No	
Certificate of suitability TÜV / IEC 61508 • TÜV (German technical inspectorate) certificate Yes • UL approval Yes	 safety-related circuits 	Yes	
Certificate of suitability TÜV / IEC 61508 • TÜV (German technical inspectorate) certificate Yes • UL approval Yes	Certificates/ approvals:		
• UL approval Yes	Certificate of suitability	TÜV / IEC 61508	
	• TÜV (German technical inspectorate) certificate	Yes	
BG BIA certificate No	• UL approval	Yes	
	BG BIA certificate	No	

Image: Wight of the second	General Product	t Approval			Functional Safety/Safety of Machinery
Declaration of other	CCC	(SA)		EHC	Type Examination
Conformity		other			

Further information

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EG-Konf.

Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system) http://www.siemens.com/industrymall

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TK28101BA410AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3TK28101BA410AA0

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TK28101BA410AA0&lang=en



