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Data sheet 3SK1121-1CB44

Figure similar

SIRIUS SAFETY RELAY BASIC UNIT ADVANCED SERIES WITH TIME DELAY 5-300S RELAY ENABLING CIRCUITS 2 INSTANTANEOUS NO CONTACTS 2 DELAYED NO CONTACTS US = 24 V DC SCREW TERMINAL

General technical data:		
product brand name		SIRIUS
Product designation		safety relays
Design of the product		For autonomous safety applications
Protection class IP of the enclosure		IP20
Protection against electrical shock		finger-safe
Insulation voltage Rated value	V	300
Ambient temperature		
• during storage	°C	-40 ... +80
• during operation	°C	-25 ... +60
Air pressure acc. to SN 31205	kPa	90 ... 106
Relative humidity during operation	%	10 ... 95
Installation altitude at height above sea level maximum	m	2 000
Vibration resistance acc. to IEC 60068-2-6		5 ... 500 Hz: 0,75 mm
Shock resistance		10g / 11 ms
Surge voltage resistance Rated value	V	4 000
EMC emitted interference		IEC 60947-5-1, Class A
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.
Overvoltage category		Installation category III
Degree of pollution		3
Number of sensor inputs 1-channel or 2-channel		1
Design of the cascading		yes

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Type of the safety-related wiring of the inputs		single-channel and 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
Performance level (PL)		
• acc. to EN ISO 13849-1		e
• for delayed release circuit acc. to EN ISO 13849-1		e
Category acc. to EN ISO 13849-1		4
Safe failure fraction (SFF)	%	99
PFHD with high demand rate acc. to EN 62061	1/h	0.0000000037
Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508	1/y	0.000007
T1 value for proof test interval or service life acc. to IEC 61508	y	20
Hardware fault tolerance acc. to IEC 61508		1
Safety device type acc. to IEC 61508-2		Type B
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		2
— safety-related delayed switching		2
Number of outputs as contact-less semiconductor switching element		
• safety-related		
— delayed switching		0
— instantaneous contact		0
• for signaling function instantaneous contact		0
Stop category acc. to DIN EN 60204-1		0 / 1

General technical data:		
Design of input		
• cascading input/functional switching		Yes
• feedback input		Yes

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• Start input		Yes
Type of electrical connection Plug-in socket		No
Operating frequency maximum	1/h	360
Switching capacity current		
• of the NO contacts of the relay outputs		
— at DC-13		
— at 24 V	A	3
— at 115 V	A	0.2
— at 230 V	A	0.1
— at AC-15		
— at 115 V	A	3
— at 230 V	A	3
Thermal current of the switching element with contacts maximum	A	5
Operating current at 17 V minimum	mA	5
Mechanical service life (switching cycles) typical		10 000 000
Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required		gL/gG: 6A or circuit breaker type A: 3A or circuit breaker type B: 2A or circuit breaker type C: 1A
Cable length		
• with Cu 1.5 mm² and 150 nF/km per sensor circuit maximum	m	4 000
Make time with automatic start		
• for DC maximum	ms	110
Make time with automatic start after power failure		
• typical	ms	6 500
• maximum	ms	6 500
Make time with monitored start		
• maximum	ms	110
Backslide delay time after opening of the safety circuits typical	ms	40
Backslide delay time in the event of power failure		
• typical	ms	30
• maximum	ms	40
Adjustable OFF-delay time after opening of the safety circuits		5 ... 300
Recovery time after opening of the safety circuits typical	ms	30
Recovery time after power failure typical	s	6.5
Pulse duration		
• of the sensor input minimum	ms	75
• of the ON pushbutton input minimum	s	0.15
Control circuit/ Control:		
Type of voltage of the control supply voltage		DC

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Control supply voltage		
• for DC		
— Rated value	V	24
Operating range factor control supply voltage rated value of the magnet coil		
• for DC		0.8 ... 1.2
Active power loss typical	W	2.5

Installation/ mounting/ dimensions:		
mounting position		any
Required spacing for grounded parts at the side	mm	5
Required spacing with side-by-side mounting at the side	mm	0
Mounting type		screw and snap-on mounting
Width	mm	22.5
Height	mm	100
Depth	mm	121.6

Connections/ Terminals:		
Type of electrical connection		screw-type terminals
Type of connectable conductor cross-section		
• solid		1x (0.5 ... 2.5 mm²), 2x (1.0 ... 1.5 mm²)
• finely stranded		
— with core end processing		1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)
Type of connectable conductor cross-section for AWG conductors		
• solid		1x (20 ... 14), 2x (18 ... 16)
• stranded		1x (20 ... 16), 2x (20 ... 16)

Product Function:		
Product function parameterizable		Sensor floating / sensor non-floating, monitored start / autostart, 1-channel / 2-channel sensor connection, cross-circuit detection, startup testing, antivalent sensors, 2-hand switches, time delay
Suitability for operation Device connector 3ZY12		Yes
Suitability for interaction press control		Yes
Suitability for use		
• safety switch		Yes
• Monitoring of floating sensors		Yes
• Monitoring of non-floating sensors		Yes
• magnetically operated switch monitoring		Yes
• safety-related circuits		Yes

Certificates/ approvals:

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General Product Approval			EMC	Functional Safety/Safety of Machinery	Declaration of Conformity
CCC	CSA	UL	C-TICK	Type Examination	EG-Konf.

Test Certificates	other
Type Test Certificates/Test Report	Confirmation

Further information

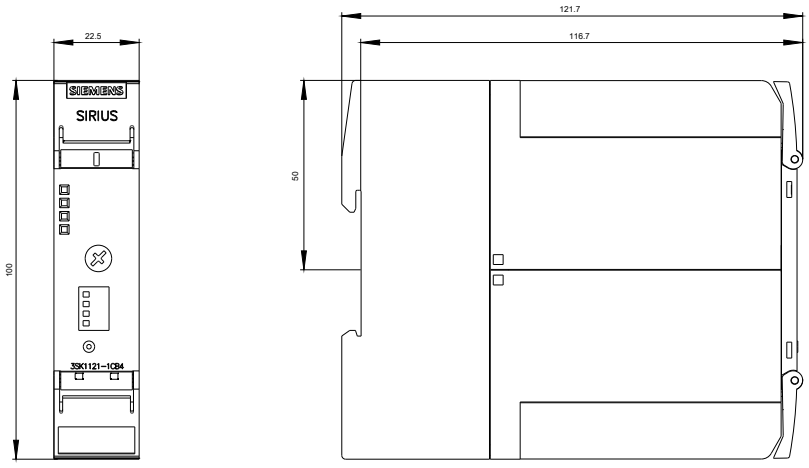
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

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=3SK11211CB44

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3SK11211CB44/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/index.aspx?attID9=3SK11211CB44&lang=en



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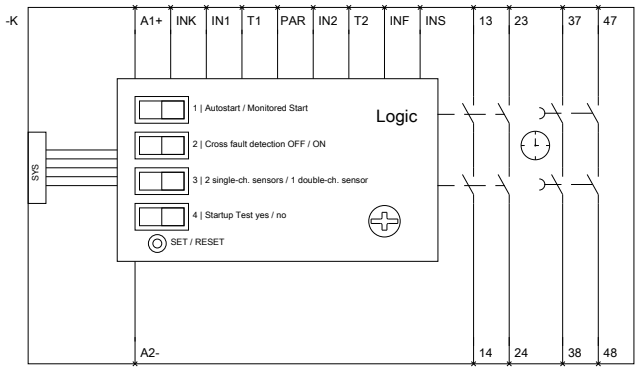

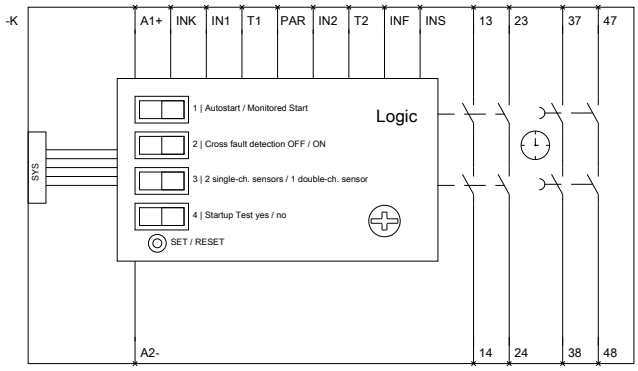

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