SIEMENS

Data sheet 3SK1122-1AB40

Figure similar

SIRIUS SAFETY RELAY BASIC UNIT ADVANCED SERIES 3 SOLID-STATE ENABLING CIRCUITS 1 SOLID-STATE SIGNALING CIRCUIT, 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	50
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	500
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
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
Performance level (PL)		
• 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	0.0000000013
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
Number of outputs		
• as contact-less semiconductor switching element		
— safety-related		
— delayed switching		0
— instantaneous contact		3
— for signaling function instantaneous contact		1
Stop category acc. to DIN EN 60204-1		0

General technical data:

Design of input		
• cascading input/functional switching		Yes
• feedback input		Yes
• Start input		Yes

Design of the electrical connection Plug-in socket		No
Operating frequency maximum	1/h	2 000
Switching capacity current		
• of semiconductor outputs at DC-13 at 24 V	A	2
Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required		not required
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	85
Make time		
• with automatic start		
— after power failure		
— typical	ms	6 500
— maximum	ms	6 500
Make time		
• with monitored start		
— maximum	ms	85
Backslide delay time after opening of the safety circuits typical	ms	40
Backslide delay time		
• in the event of power failure		
— typical	ms	0
— maximum	ms	0
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	60
• of the ON pushbutton input minimum	s	0.15

Control circuit/ Control:		
Type of voltage of the control supply voltage		DC
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

Installation/ mounting/ dimensions:		
mounting position		any
Spacing required for grounded parts at the side	mm	5
Spacing required 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:		
Design of the 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
Suitability for use Device connector 3ZY12		Yes
Suitability for interaction press control		Yes
• Suitability for use safety switch		Yes
• suitability for use Monitoring of floating sensors		Yes
• suitability for use Monitoring of non-floating sensors		Yes
• suitability for use magnetically operated switch monitoring		Yes
• suitability for use safety-related circuits		Yes

Certificates/ approvals:

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

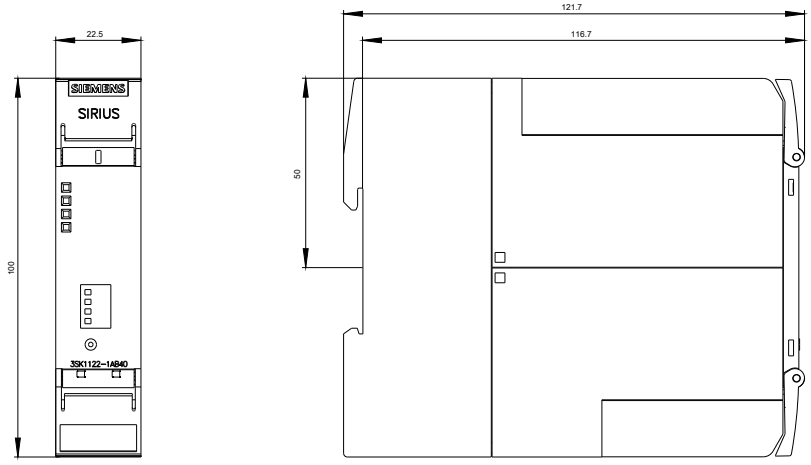
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

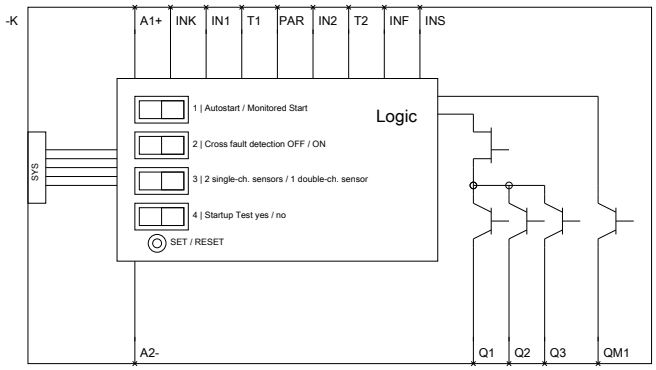
Industry Mall (Online ordering system)
http://www.siemens.com/industrymall

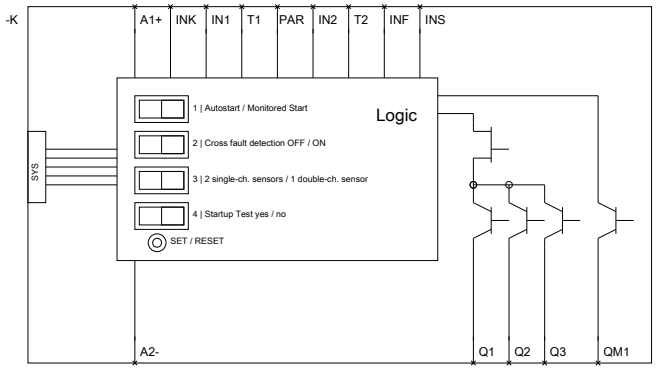
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK11221AB40

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3SK11221AB40/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/index.aspx?attID9=3SK11221AB40&lang=en







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