



SIRIUS SAFETY RELAY BASIC UNIT ADVANCED
 SERIES 3 SOLID-STATE ENABLING CIRCUITS 1
 SOLID-STATE SIGNALING CIRCUIT, US = 24 V DC
 SCREW TERMINAL

Figure similar

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) <ul style="list-style-type: none"> • acc. to IEC 61508 		SIL3
Performance level (PL) <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • as NC contact <ul style="list-style-type: none"> — for signaling function instantaneous contact — for signaling function delayed switching — safety-related instantaneous contact — safety-related delayed switching • as NO contact <ul style="list-style-type: none"> — for signaling function instantaneous contact — for signaling function delayed switching 		0 0 0 0 0 0
Number of outputs as contact-less semiconductor switching element <ul style="list-style-type: none"> • safety-related <ul style="list-style-type: none"> — delayed switching — instantaneous contact • for signaling function instantaneous contact 		0 3 1
Stop category acc. to DIN EN 60204-1		0

General technical data:

Design of input <ul style="list-style-type: none"> • cascading input/functional switching • feedback input • Start input 		Yes Yes Yes
Type of electrical connection Plug-in socket		No
Operating frequency maximum	1/h	2 000
Switching capacity current <ul style="list-style-type: none"> • 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		
<ul style="list-style-type: none"> with Cu 1.5 mm² and 150 nF/km per sensor circuit maximum 	m	4 000
Make time with automatic start		
<ul style="list-style-type: none"> for DC maximum 	ms	85
Make time with automatic start after power failure		
<ul style="list-style-type: none"> typical maximum 	ms	6 500
	ms	6 500
Make time with monitored start		
<ul style="list-style-type: none"> maximum 	ms	85
Backslide delay time after opening of the safety circuits typical	ms	40
Backslide delay time in the event of power failure		
<ul style="list-style-type: none"> typical maximum 	ms	0
	ms	0
Recovery time after opening of the safety circuits typical	ms	30
Recovery time after power failure typical	s	6.5
Pulse duration		
<ul style="list-style-type: none"> of the sensor input minimum of the ON pushbutton input minimum 	ms	60
	s	0.15

Control circuit/ Control:

Type of voltage of the control supply voltage		DC
Control supply voltage		
<ul style="list-style-type: none"> for DC — Rated value 	V	24
Operating range factor control supply voltage rated value of the magnet coil		
<ul style="list-style-type: none"> for DC 		0.8 ... 1.2
Active power loss typical	W	2

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		1x (0.5 ... 2.5 mm ²), 2x (1.0 ... 1.5 mm ²)
<ul style="list-style-type: none"> • solid • finely stranded <ul style="list-style-type: none"> — with core end processing 		1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
Type of connectable conductor cross-section for AWG conductors		1x (20 ... 14), 2x (18 ... 16)
<ul style="list-style-type: none"> • solid • 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 operation Device connector 3ZY12		Yes
Suitability for interaction press control		Yes
Suitability for use		
<ul style="list-style-type: none"> • safety switch • Monitoring of floating sensors • Monitoring of non-floating sensors • magnetically operated switch monitoring • safety-related circuits 		Yes Yes Yes Yes Yes

Certificates/ approvals:

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

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

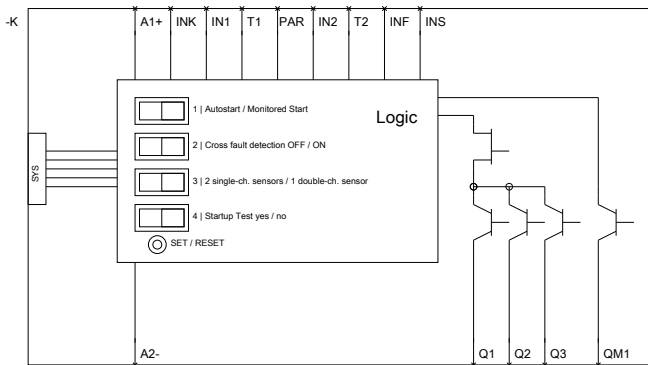
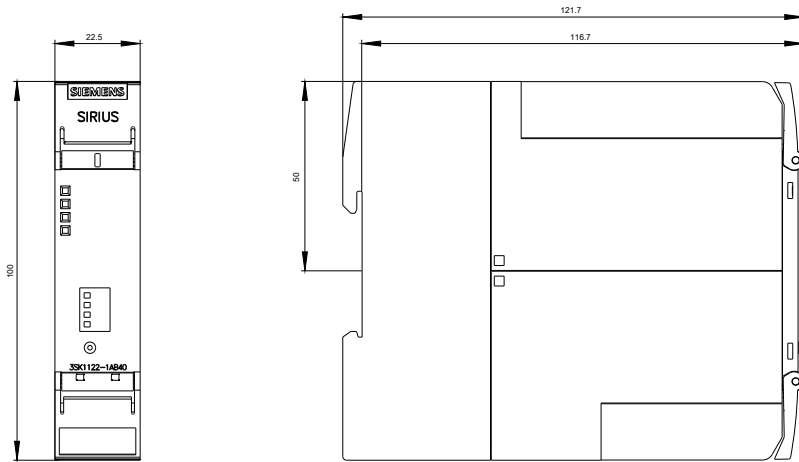
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfib=3SK11221AB40>

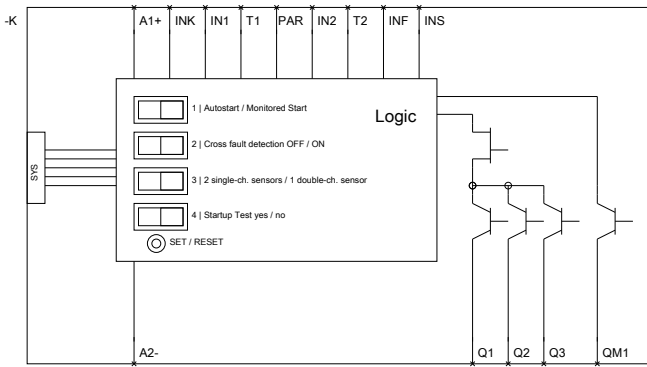
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<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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