



SIRIUS SAFETY RELAY BASIC UNIT ADVANCED SERIES WITH TIME DELAY 0.5-30S ELECTRONIC ENABLING CIRCUITS 2 INSTANTANEOUS 2 DELAYED 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

<b>Type of the safety-related wiring of the inputs</b>		single-channel and two-channel
<b>Product property cross-circuit-proof</b>		Yes
<b>Safety Integrity Level (SIL)</b>		
• acc. to IEC 61508		SIL3
• for delayed release circuit acc. to IEC 61508		SIL3
<b>Performance level (PL)</b>		
• acc. to EN ISO 13849-1		e
• for delayed release circuit acc. to EN ISO 13849-1		e
<b>Category acc. to EN ISO 13849-1</b>		4
<b>Safe failure fraction (SFF)</b>	%	99
<b>PFHD with high demand rate acc. to EN 62061</b>	1/h	0.0000000015
<b>Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508</b>	1/y	0.000007
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	y	20
<b>Hardware fault tolerance acc. to IEC 61508</b>		1
<b>Safety device type acc. to IEC 61508-2</b>		Type B
<b>Number of outputs as contact-affected switching element</b>		
• 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
<b>Number of outputs as contact-less semiconductor switching element</b>		
• safety-related		
— delayed switching		2
— instantaneous contact		2
• for signaling function instantaneous contact		0
<b>Stop category acc. to DIN EN 60204-1</b>		0 / 1

#### General technical data:

<b>Design of input</b>		
• cascading input/functional switching		Yes
• feedback input		Yes
• Start input		Yes
<b>Type of electrical connection Plug-in socket</b>		No

<b>Operating frequency maximum</b>	1/h	2 000
<b>Switching capacity current</b>		
• of semiconductor outputs at DC-13 at 24 V	A	2
<b>Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required</b>		not required
<b>Cable length</b>		
• with Cu 1.5 mm <sup>2</sup> and 150 nF/km per sensor circuit maximum	m	4 000
<b>Make time with automatic start</b>		
• for DC maximum	ms	85
<b>Make time with automatic start after power failure</b>		
• typical	ms	6 500
• maximum	ms	6 500
<b>Make time with monitored start</b>		
• maximum	ms	85
<b>Backslide delay time after opening of the safety circuits typical</b>	ms	40
<b>Backslide delay time in the event of power failure</b>		
• typical	ms	0
• maximum	ms	0
<b>Adjustable OFF-delay time after opening of the safety circuits</b>		0.5 ... 30
<b>Recovery time after opening of the safety circuits typical</b>	ms	30
<b>Recovery time after power failure typical</b>	s	6.5
<b>Pulse duration</b>		
• of the sensor input minimum	ms	60
• of the ON pushbutton input minimum	s	0.15

#### Control circuit/ Control:

<b>Type of voltage of the control supply voltage</b>		DC
<b>Control supply voltage</b>		
• for DC		
— Rated value	V	24
<b>Operating range factor control supply voltage rated value of the magnet coil</b>		
• for DC		0.8 ... 1.2
<b>Active power loss typical</b>	W	2

#### Installation/ mounting/ dimensions:

<b>mounting position</b>		any
<b>Required spacing for grounded parts at the side</b>	mm	5
<b>Required spacing with side-by-side mounting at the side</b>	mm	0
<b>Mounting type</b>		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 <sup>2</sup> ), 2x (1.0 ... 1.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded</li> <li>— with core end processing</li> </ul>		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
Type of connectable conductor cross-section for AWG conductors		1x (20 ... 14), 2x (18 ... 16)
<ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>		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		Yes
<ul style="list-style-type: none"> <li>• safety switch</li> <li>• Monitoring of floating sensors</li> <li>• Monitoring of non-floating sensors</li> <li>• magnetically operated switch monitoring</li> <li>• safety-related circuits</li> </ul>		Yes Yes Yes Yes Yes

**Certificates/ approvals:**

General Product Approval	EMC	Functional Safety/Safety of Machinery	Declaration of Conformity
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CCC



CSA



UL



C-TICK

[Type Examination](#)



EG-Konf.

Test Certificates	other
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[Type Test Certificates/Test Report](#)

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## 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

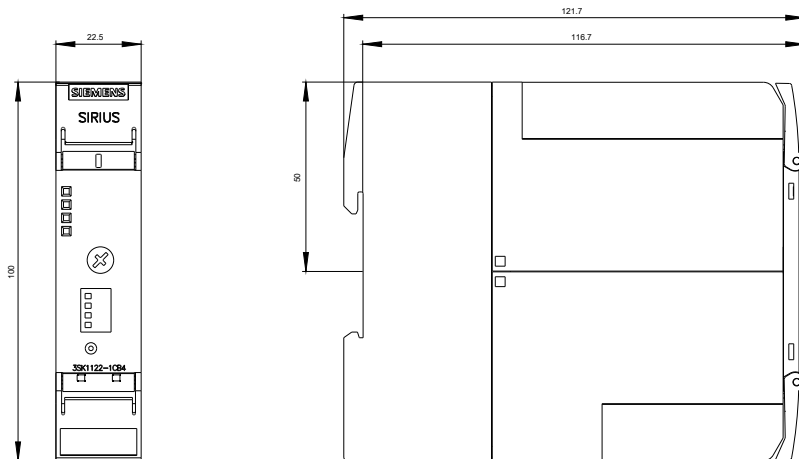
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK11221CB42>

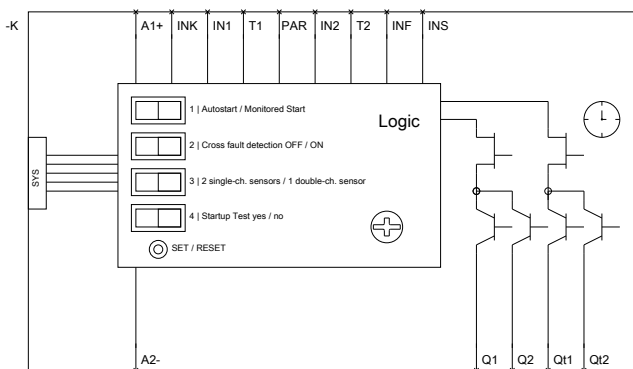
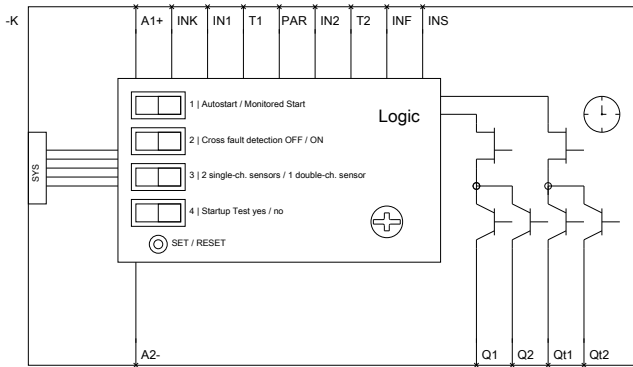
### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3SK11221CB42/all>

### Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

<http://www.automation.siemens.com/bilddb/index.aspx?attID9=3SK11221CB42&lang=en>





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