

SIRIUS SAFETY RELAY BASIC UNIT ADVANCED SERIES WITH  
 TIME DELAY 0.05-3S RELAY ENABLING CIRCUITS 2  
 INSTANTANEOUS NO CONTACTS 2 DELAYED NO CONTACTS  
 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	300 V
Ambient temperature	
• during storage	-40 ... +80 °C
• during operation	-25 ... +60 °C
Air pressure acc. to SN 31205	90 ... 106 kPa
Relative humidity during operation	10 ... 95 %
Installation altitude at height above sea level maximum	2 000 m
Vibration resistance acc. to IEC 60068-2-6	5 ... 500 Hz: 0,75 mm
Shock resistance	10g / 11 ms
Surge voltage resistance Rated value	4 000 V
EMC emitted interference	IEC 60947-5-1, Class A

<b>Installation environment regarding EMC</b>	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.
<b>Overtoltage category</b>	Installation category III
<b>Degree of pollution</b>	3
<b>Number of sensor inputs 1-channel or 2-channel</b>	1
<b>Design of the cascading</b>	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>	0.0000000037 1/h
<b>Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508</b>	0.000007 1/y
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<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
— safety-related instantaneous contact	2
— safety-related delayed switching	2
<b>Number of outputs as contact-less semiconductor switching element</b>	
• safety-related	
— delayed switching	0

— instantaneous contact	0
• 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>	360 1/h
<b>Switching capacity current</b>	
• of the NO contacts of the relay outputs	
— at DC-13	
— at 24 V	3 A
— at 115 V	0.2 A
— at 230 V	0.1 A
— at AC-15	
— at 115 V	3 A
— at 230 V	3 A
<b>Thermal current of the switching element with contacts maximum</b>	5 A
<b>Operating current at 17 V minimum</b>	5 mA
<b>Mechanical service life (switching cycles) typical</b>	10 000 000
<b>Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required</b>	gL/gG: 6A or circuit breaker type A: 3A or circuit breaker type B: 2A or circuit breaker type C: 1A
<b>Cable length</b>	
• with Cu 1.5 mm <sup>2</sup> and 150 nF/km per sensor circuit maximum	4 000 m
<b>Make time with automatic start</b>	
• at DC maximum	110 ms
<b>Make time with automatic start after power failure</b>	
• typical	6 500 ms
• maximum	6 500 ms
<b>Make time with monitored start</b>	
• maximum	110 ms
<b>Backslide delay time after opening of the safety circuits typical</b>	40 ms
<b>Backslide delay time in the event of power failure</b>	
• typical	30 ms
• maximum	40 ms
<b>Adjustable OFF-delay time after opening of the safety circuits</b>	0.05 ... 3

Recovery time after opening of the safety circuits typical	30 ms
Recovery time after power failure typical	6.5 s
Pulse duration	
• of the sensor input minimum	75 ms
• of the ON pushbutton input minimum	0.15 s

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






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

Connections/ Terminals:	
Type of electrical connection	screw-type terminals
Type of connectable conductor cross-section	
• solid	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (1.0 ... 1.5 mm <sup>2</sup> )
• finely stranded	
— with core end processing	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	
• 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:

General Product Approval	EMC	Functional Safety/Safety of Machinery	Declaration of Conformity
 CCC	 C-TICK	<a href="#">Baumusterbescheinigung</a>	 EG-Konf.
 CSA			
 UL			

Test Certificates	other
<a href="#">Typprüfbescheinigung/Werkszeugnis</a>	<a href="#">Bestätigungen</a>

#### 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

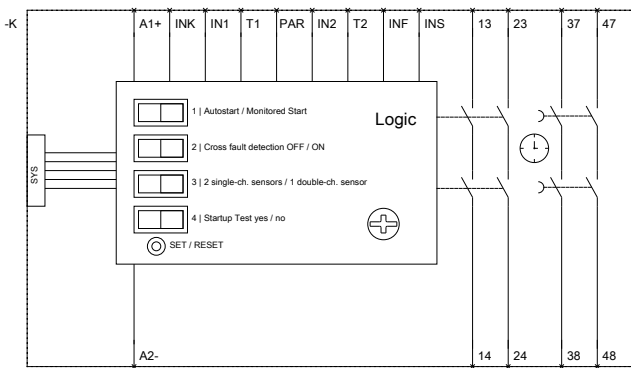
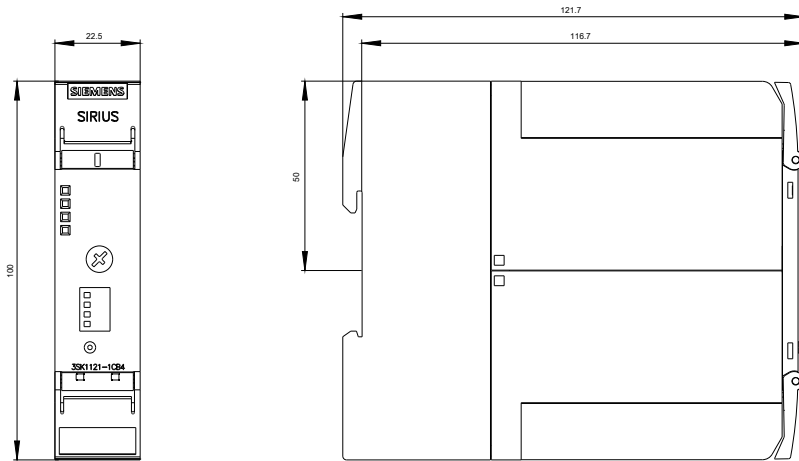
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK11211CB41>

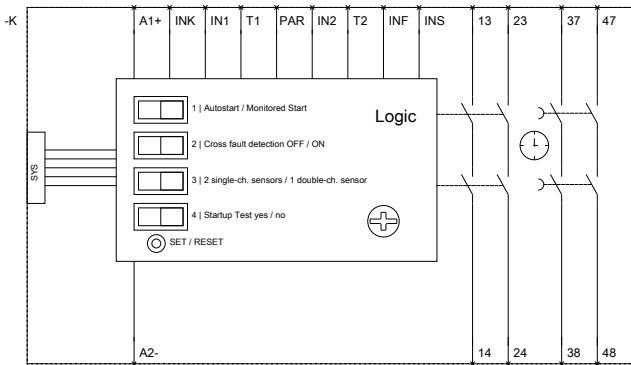
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3SK11211CB41>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3SK11211CB41&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK11211CB41&lang=en)





last modified:

20.07.2015