

SIRIUS safety relay Basic unit Advanced series with time delay 0.05-3 s electronic enabling circuits 2 NO instantaneous 2 NO delayed Us = 24 V DC screw terminal



General technical data	
Product brand name	SIRIUS
Product category	Safety relays
Product designation	safety relays
Design of the product	Solid-state enabling circuits
Protection class IP of the enclosure	IP20
Protection against electrical shock	finger-safe
Insulation voltage rated value	50 V
Ambient temperature	
• during storage	-40 ... +80 °C
• during operation	-25 ... +60 °C
Air pressure acc. to SN 31205	90 kPa ... 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	800 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>Overvoltage category</b>	3
<b>Degree of pollution</b>	3
<b>Reference code acc. to DIN EN 81346-2</b>	F
<b>Power loss [W] maximum</b>	2 W
<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 feature cross-circuit-proof</b>	Yes
<b>Safety Integrity Level (SIL)</b>	
• acc. to IEC 61508	3
• 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>	0.0000000015 1/h
<b>PFDavg with low demand rate acc. to IEC 61508</b>	0.000007
<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 NO contact	
— safety-related instantaneous contact	0
— safety-related delayed switching	0
<b>Number of outputs as contact-less semiconductor switching element</b>	
• safety-related	
— delayed switching	2
— instantaneous contact	2
<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

Type of electrical connection Plug-in socket	No
Operating frequency maximum	2 000 1/h
Switching capacity current <ul style="list-style-type: none"> <li>• of semiconductor outputs at DC-13 at 24 V</li> </ul>	2 A
Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required	not required
Wire length <ul style="list-style-type: none"> <li>• with Cu 1.5 mm<sup>2</sup> and 150 nF/km per sensor circuit maximum</li> </ul>	4 000 m
Make time with automatic start <ul style="list-style-type: none"> <li>• at DC maximum</li> </ul>	85 ms
Make time with automatic start after power failure <ul style="list-style-type: none"> <li>• typical</li> <li>• maximum</li> </ul>	6 500 ms 6 500 ms
Make time with monitored start <ul style="list-style-type: none"> <li>• maximum</li> </ul>	85 ms
Backslide delay time after opening of the safety circuits typical	40 ms
Adjustable OFF-delay time after opening of the safety circuits	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 <ul style="list-style-type: none"> <li>• of the sensor input minimum</li> <li>• of the ON pushbutton input minimum</li> </ul>	60 ms 0.15 s

#### Control circuit/ Control

Type of voltage of the control supply voltage	DC
Control supply voltage <ul style="list-style-type: none"> <li>• at DC <ul style="list-style-type: none"> <li>— rated value</li> </ul> </li> </ul>	24 V
Operating range factor control supply voltage rated value of magnet coil <ul style="list-style-type: none"> <li>• at DC</li> </ul>	0.8 ... 1.2

#### Installation/ mounting/ dimensions

Mounting position	any
Required spacing for grounded parts at the side	5 mm
Mounting type	screw and snap-on mounting
Width	22.5 mm
Height	100 mm
Depth	121.6 mm

#### Connections/ Terminals

<b>Type of electrical connection</b>	screw-type terminals
<b>Type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• solid</li> </ul>	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>• finely stranded <ul style="list-style-type: none"> <li>— with core end processing</li> </ul> </li> </ul>	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
<b>Type of connectable conductor cross-sections at AWG conductors</b>	
<ul style="list-style-type: none"> <li>• solid</li> </ul>	1x (20 ... 14), 2x (18 ... 16)
<ul style="list-style-type: none"> <li>• stranded</li> </ul>	1x (20 ... 16), 2x (20 ... 16)

### Product Function

<b>Product function parameterizable</b>	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
<b>Suitability for operation Device connector 3ZY12</b>	Yes
<b>Suitability for interaction press control</b>	Yes
<b>Suitability for use</b>	
<ul style="list-style-type: none"> <li>• safety switch</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Monitoring of floating sensors</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Monitoring of non-floating sensors</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• magnetically operated switch monitoring</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• safety-related circuits</li> </ul>	Yes

### Certificates/ approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
--------------------------	-----	---------------------------------------



[Type Examination Certificate](#)

Declaration of Conformity	Test Certificates	Shipping Approval
---------------------------	-------------------	-------------------



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



other	Railway
<a href="#">Confirmation</a>	<a href="#">Confirmation</a>

#### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

[www.siemens.com/ic10](http://www.siemens.com/ic10)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK1122-1CB41>

**Cax online generator**

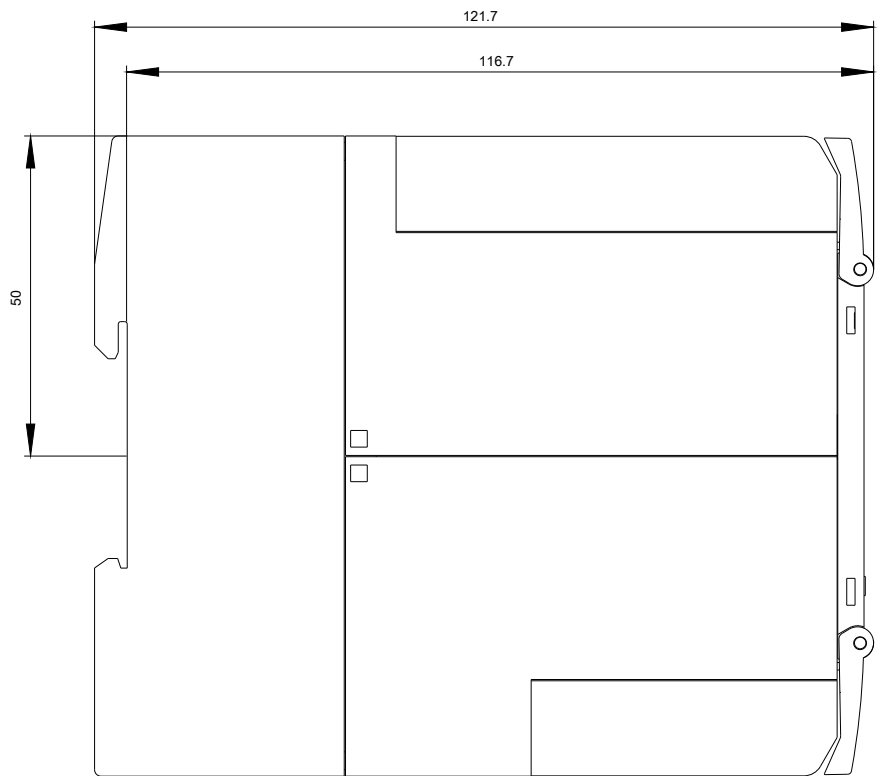
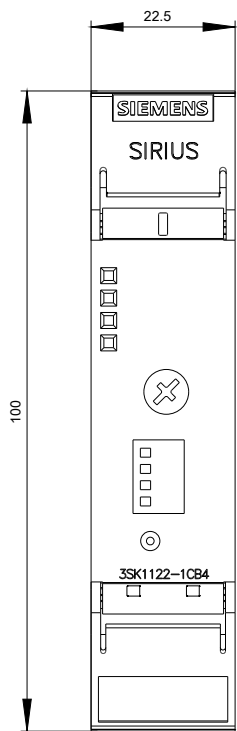
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1122-1CB41>

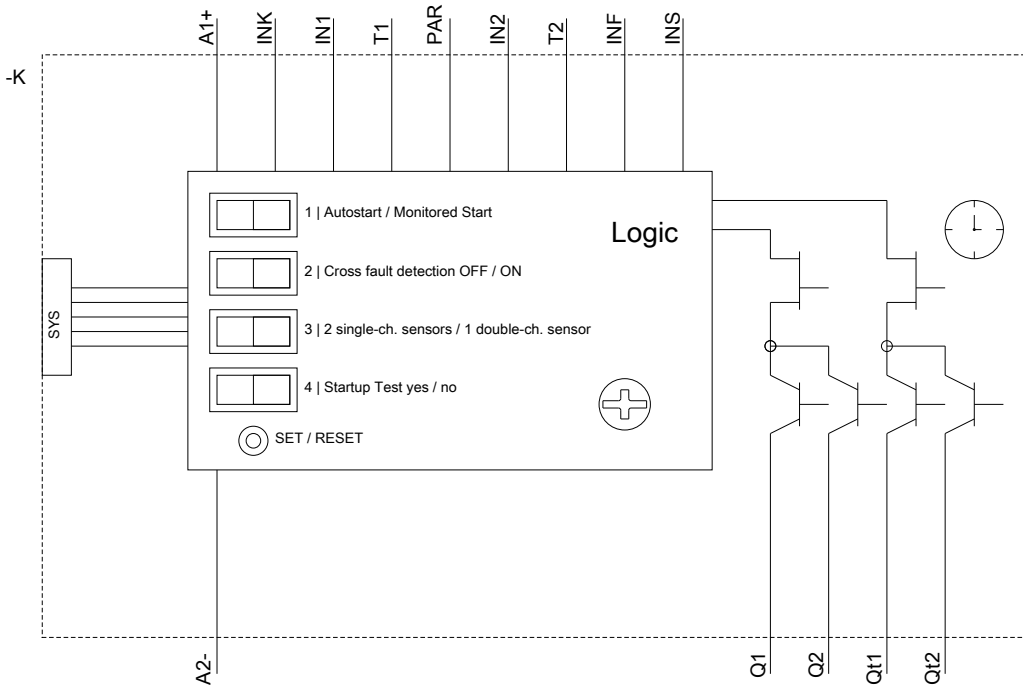
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

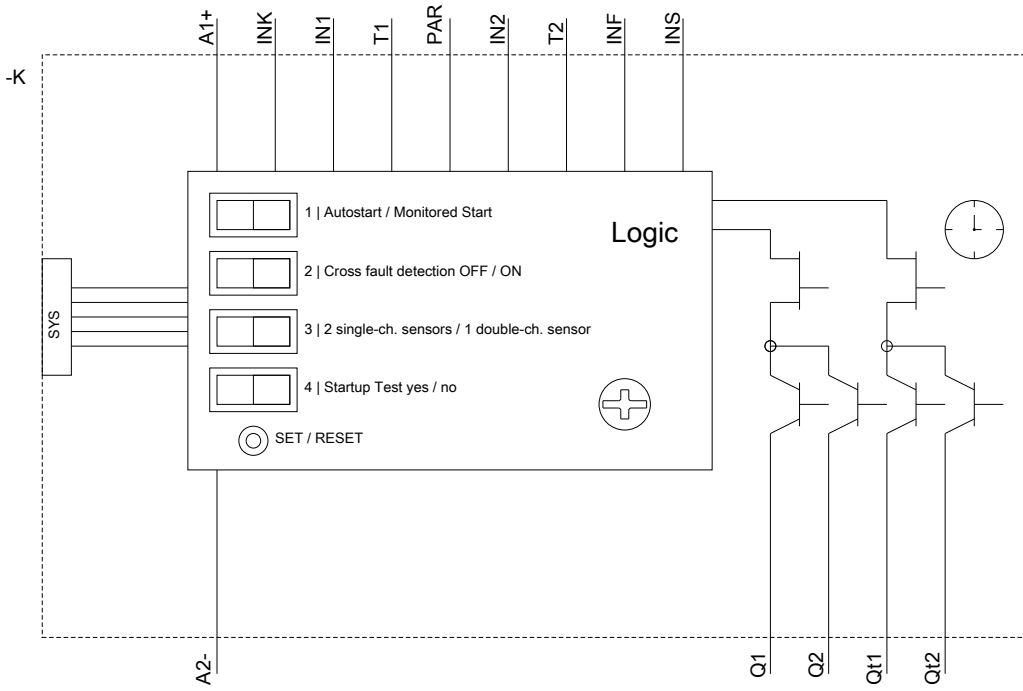
<https://support.industry.siemens.com/cs/ww/en/ps/3SK1122-1CB41>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3SK1122-1CB41&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1122-1CB41&lang=en)







last modified:

01/18/2020