



SIRIUS safety relay Basic unit Advanced series with time delay 5-300 s Relay enabling circuits 2 NO instantaneous 2 NO delayed  $U_s = 24\text{ V DC}$  screw terminal

product brand name	SIRIUS
product category	Safety relays
product designation	safety relays
design of the product	Relay enabling circuits
<b>General technical data</b>	
protection class IP of the enclosure	IP20
touch 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 according to SN 31205	90 ... 106 kPa
relative humidity during operation	10 ... 95 %
installation altitude at height above sea level maximum	4 000 m; Derating, see Product Notification 109792701
vibration resistance according 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
installation environment regarding EMC	This product is suitable for Class A environments only. In household environments, this device can cause unwanted radio interference. The user is required to implement appropriate measures in this case.
overvoltage category	3
degree of pollution	3
reference code according to IEC 81346-2	F
power loss [W] maximum	2.5 W
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 feature cross-circuit-proof	Yes
Safety Integrity Level (SIL)	
• according to IEC 62061	3
• according to IEC 61508	3
• for delayed release circuit according to IEC 61508	SIL3
performance level (PL)	
• according to ISO 13849-1	e
• for delayed release circuit according to ISO 13849-1	e
category according to EN ISO 13849-1	4
Safe failure fraction (SFF)	99 %
PFHD with high demand rate according to IEC 62061	3.7E-9 1/h
PFDavg with low demand rate according to IEC 61508	7E-6
T1 value for proof test interval or service life according to	20 a

<b>IEC 61508</b>	
<b>hardware fault tolerance according to IEC 61508</b>	1
<b>safety device type according to IEC 61508-2</b>	Type B
<b>Inputs/ Outputs</b>	
<b>number of outputs as contact-affected switching element</b>	
• as NO contact	
— safety-related instantaneous contact	2
— safety-related delayed switching	2
<b>stop category according to IEC 60204-1</b>	0 / 1
<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>total current maximum</b>	12 A
<b>operational current at 17 V minimum</b>	5 mA
<b>mechanical service life (operating 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>wire 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>	5 ... 300
<b>recovery time after opening of the safety circuits typical</b>	30 ms
<b>recovery time after power failure typical</b>	6.5 s
<b>pulse duration</b>	
• of the sensor input minimum	75 ms
• of the ON pushbutton input minimum	0.15 s
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	DC
<b>control supply voltage</b>	
• at DC rated value	
—	24 V
<b>operating range factor control supply voltage rated value of magnet coil</b>	
• at DC	0.8 ... 1.2
<b>Installation/ mounting/ dimensions</b>	

mounting position	any
required spacing for grounded parts at the side	5 mm
fastening method	screw and snap-on mounting
width	22.5 mm
height	100 mm
depth	121.6 mm

#### Connections/ Terminals

type of electrical connection	screw terminal
type of connectable conductor cross-sections <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 (1.0 ... 1.5 mm <sup>2</sup> ) 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
type of connectable conductor cross-sections for AWG cables <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>	1x (20 ... 14), 2x (18 ... 16) 1x (20 ... 16), 2x (20 ... 16)

#### Product Function

product function parameterizable	sensor floating / sensor non-floating, monitored start-up / automatic start, 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 <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



[Confirmation](#)



EMV	Functional Safety	Test Certificates	Marine / Shipping	other	Environment
	<a href="#">Type Examination Certificate</a>	<a href="#">Type Test Certificates/Test Report</a>		<a href="#">Confirmation</a>	<a href="#">Environmental Confirmations</a>

#### Further information

##### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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

<https://www.siemens.com/ic10>

##### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK1121-1CB44>

##### Cax online generator

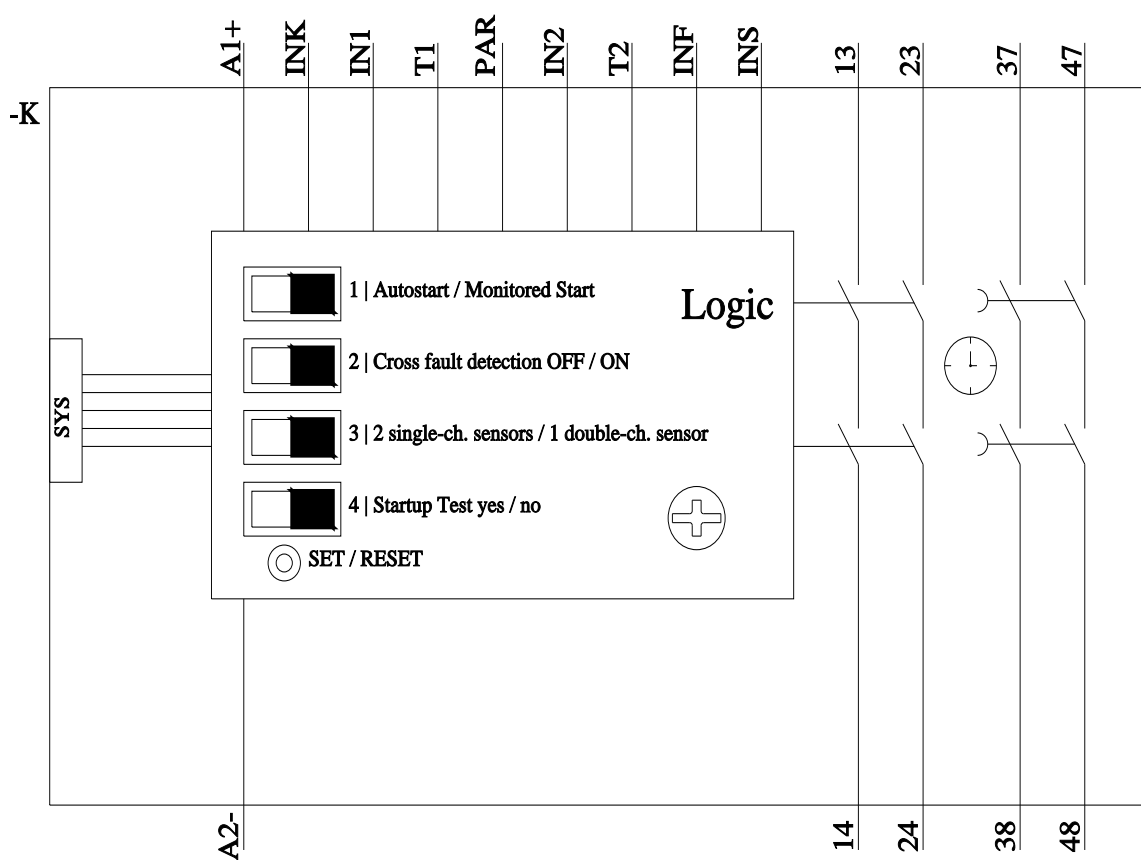
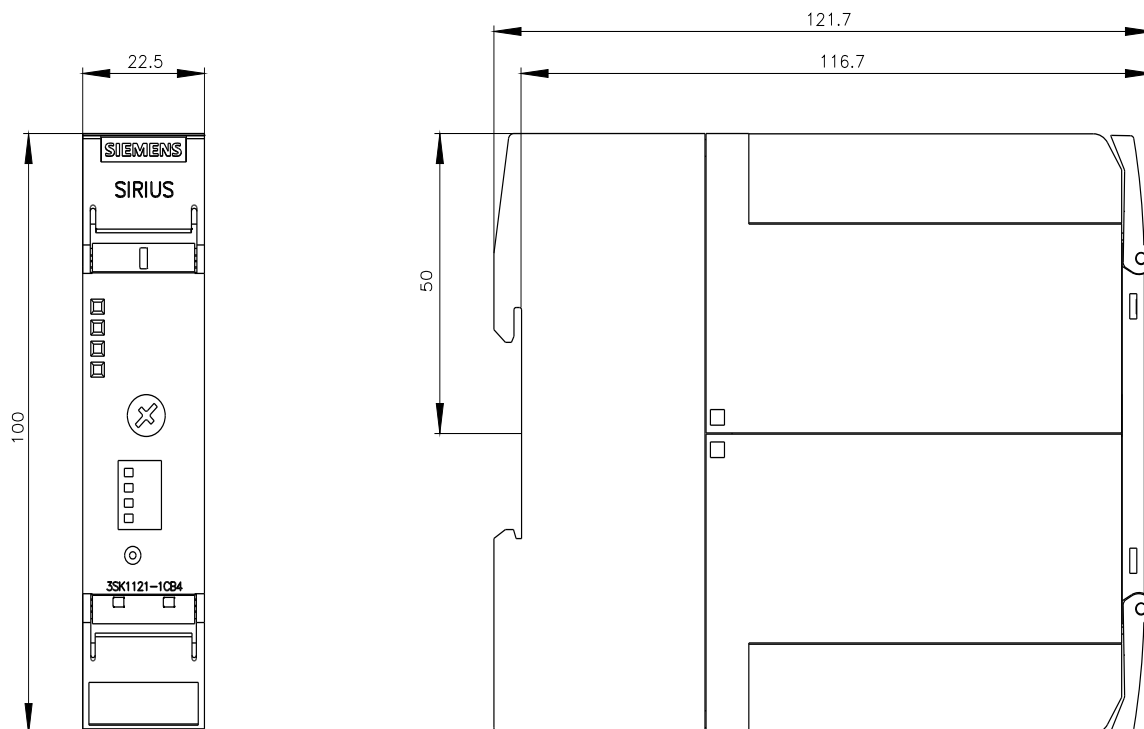
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1121-1CB44>

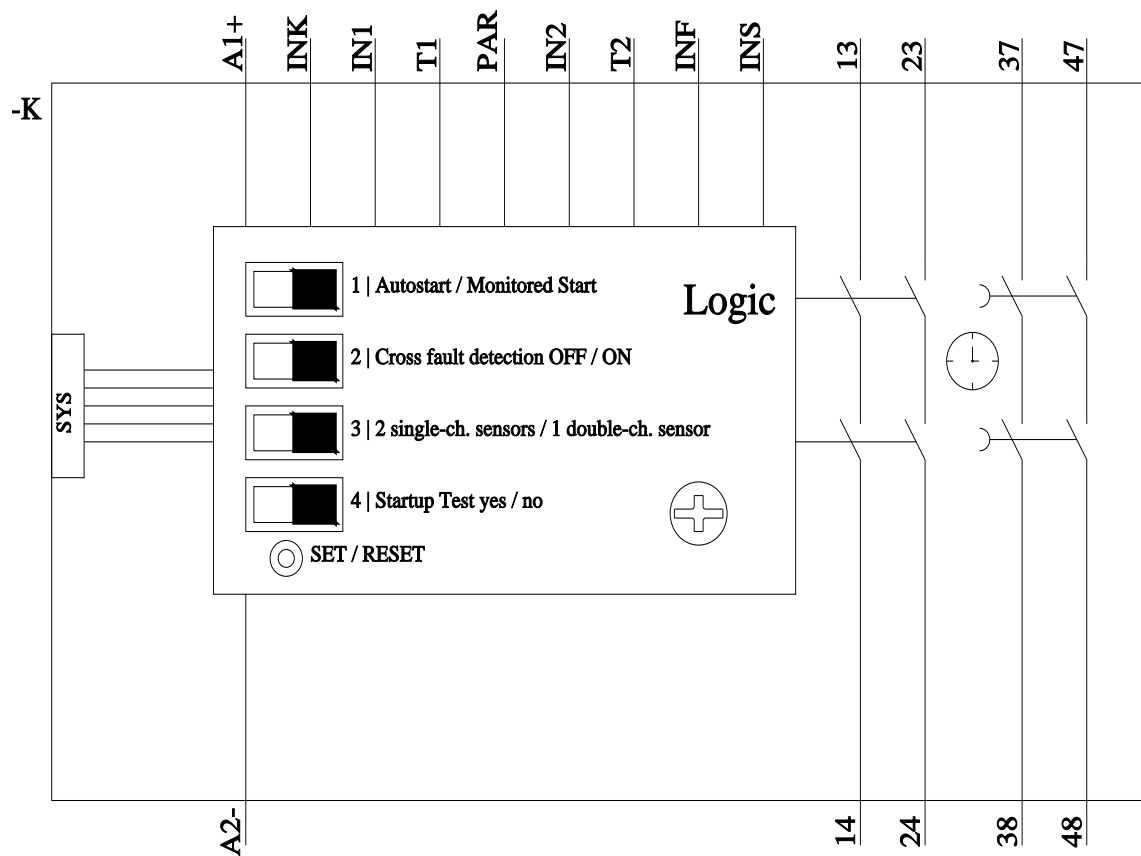
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3SK1121-1CB44>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3SK1121-1CB44&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1121-1CB44&lang=en)





last modified:

4/8/2024

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