



SIRIUS safety relay Basic unit Advanced series with time delay 0.05-3 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

General technical data

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 EN ISO 13849-1	e
category according to EN ISO 13849-1	4
Safe failure fraction (SFF)	99 %
PFHD with high demand rate according to EN 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	20 y

according to IEC 61508
 hardware fault tolerance according to IEC 61508
 safety device type according to IEC 61508-2

1
 Type B

Inputs/ Outputs

number of outputs as contact-affected switching element

- as NO contact
 - safety-related instantaneous contact 2
 - safety-related delayed switching 2

stop category according to EN 60204-1 0 / 1

design of input

- cascading input/functional switching Yes
- feedback input Yes
- start input Yes

type of electrical connection plug-in socket No

operating frequency maximum 360 1/h

switching capacity current

- 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

thermal current of the switching element with contacts maximum 5 A

total current maximum 12 A

operational current at 17 V minimum 5 mA

mechanical service life (switching cycles) typical 10 000 000

design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required gL/gG: 6A or circuit breaker type A: 3A or circuit breaker type B: 2A or circuit breaker type C: 1A

wire length

- with Cu 1.5 mm² and 150 nF/km per sensor circuit maximum 4 000 m

make time with automatic start

- at DC maximum 110 ms

make time with automatic start after power failure

- typical 6 500 ms
- maximum 6 500 ms

make time with monitored start

- maximum 110 ms

backslide delay time after opening of the safety circuits typical 40 ms

backslide delay time in the event of power failure

- typical 30 ms
- maximum 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

- 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 magnet coil

- at DC 0.8 ... 1.2

Installation/ mounting/ dimensions

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-type terminals
type of connectable conductor cross-sections	1x (0.5 ... 2.5 mm ²), 2x (1.0 ... 1.5 mm ²)
<ul style="list-style-type: none"> solid finely stranded — with core end processing 	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
type of connectable conductor cross-sections at AWG cables	
<ul style="list-style-type: none"> solid stranded 	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"> 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
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[Confirmation](#)



Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)



EG-Konf.

[Type Test Certificates/Test Report](#)



DNV



URS



RINA

Marine / Shipping	other	Railway
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RMRS

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[Confirmation](#)

Further information

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=3SK1121-1CB41>

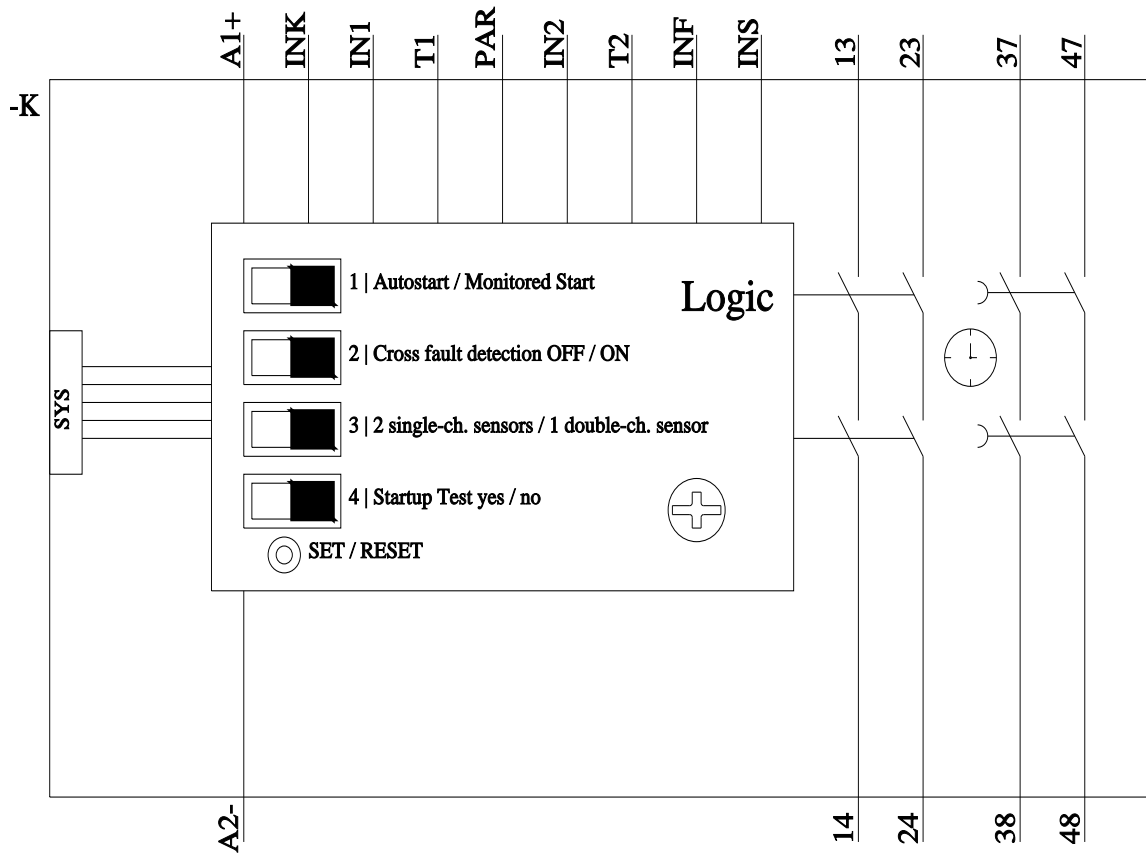
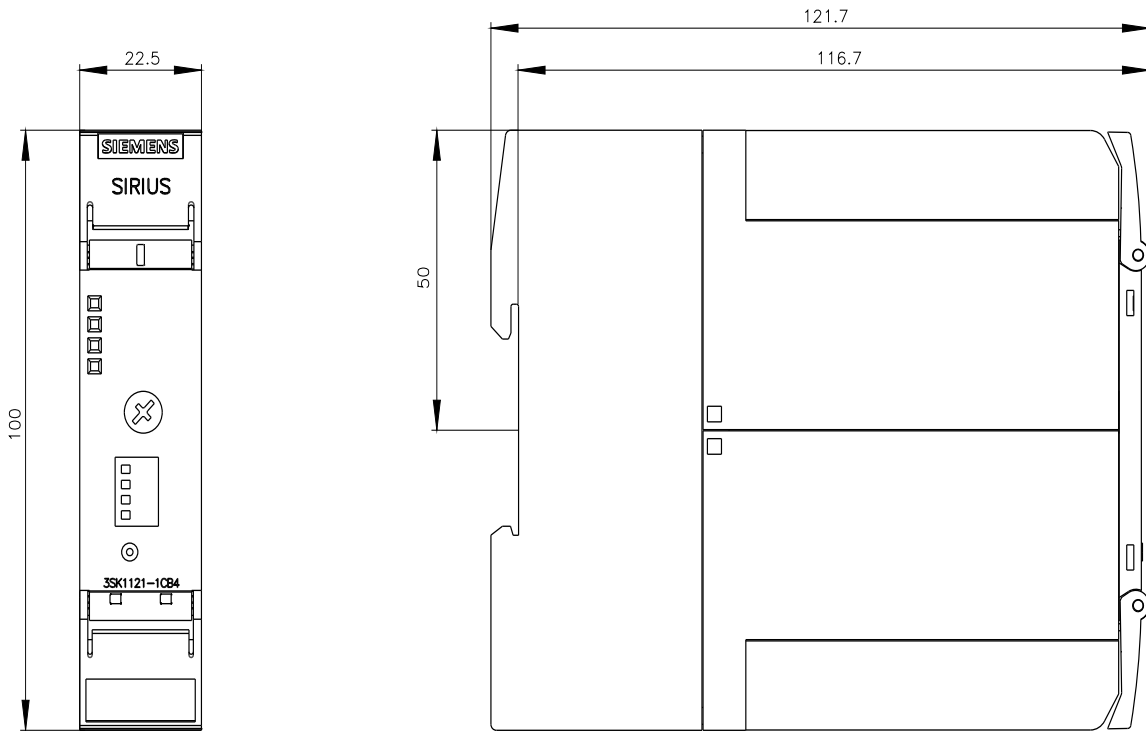
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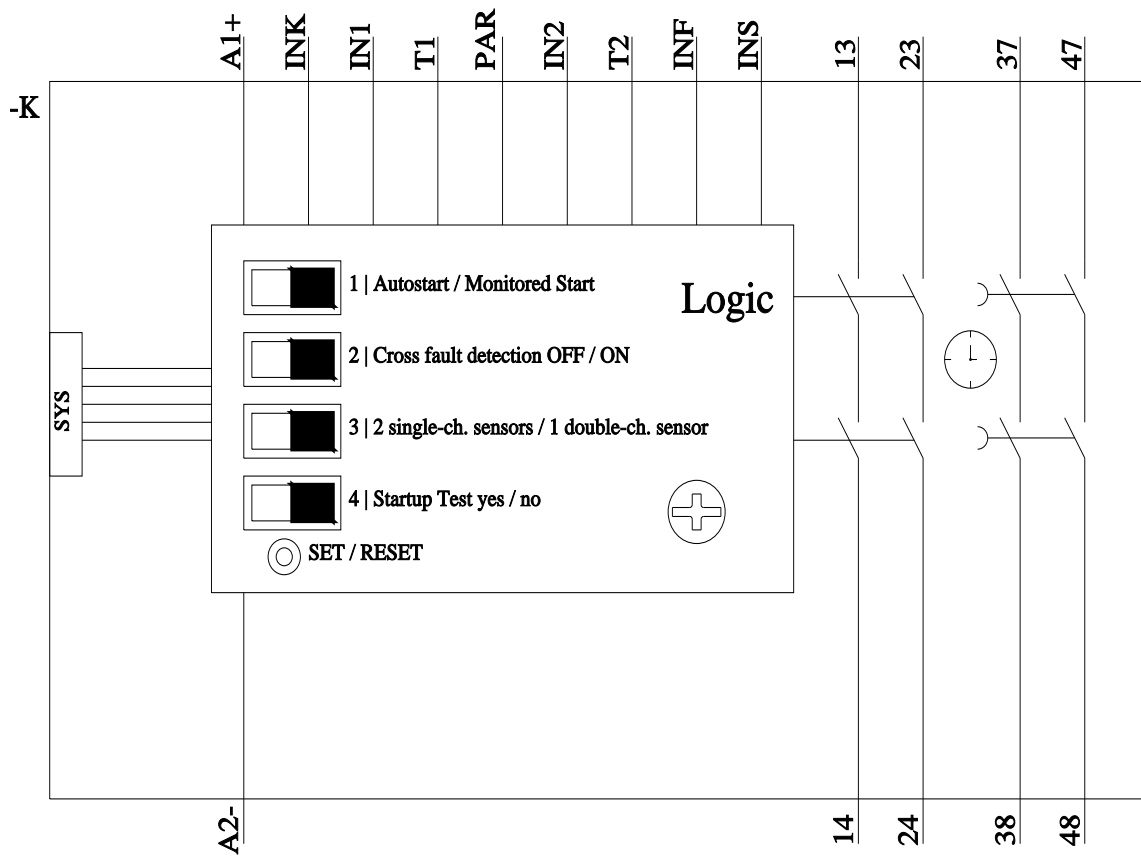
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1121-1CB41>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3SK1121-1CB41>

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





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9/29/2022