

SIRIUS safety relay Basic unit Advanced series with time delay 0.5-30 s electronic enabling circuits 2 NO instantaneous 2 NO delayed
 Us = 24 V DC Spring-type terminal (push-in)



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

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	3
Degree of pollution	3
Reference code acc. to DIN EN 81346-2	F
Power loss [W] maximum	2 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)	
• acc. to IEC 61508	3
• for delayed release circuit acc. to IEC 61508	SIL3
Performance level (PL)	
• acc. to EN ISO 13849-1	e
• for delayed release circuit acc. to EN ISO 13849-1	e
Category acc. to EN ISO 13849-1	4
Safe failure fraction (SFF)	99 %
PFHD with high demand rate acc. to EN 62061	0.0000000015 1/h
PFDavg with low demand rate acc. to IEC 61508	0.000007
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Hardware fault tolerance acc. to IEC 61508	1
Safety device type acc. to IEC 61508-2	Type B
Number of outputs as contact-affected switching element	
• as NO contact	
— safety-related instantaneous contact	0
— safety-related delayed switching	0
Number of outputs as contact-less semiconductor switching element	
• safety-related	
— delayed switching	2
— instantaneous contact	2
Stop category acc. to DIN EN 60204-1	0 / 1

General technical data

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	2 000 1/h
Switching capacity current <ul style="list-style-type: none"> • of semiconductor outputs at DC-13 at 24 V 	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"> • with Cu 1.5 mm² and 150 nF/km per sensor circuit maximum 	4 000 m
Make time with automatic start <ul style="list-style-type: none"> • at DC maximum 	85 ms
Make time with automatic start after power failure <ul style="list-style-type: none"> • typical • maximum 	6 500 ms 6 500 ms
Make time with monitored start <ul style="list-style-type: none"> • maximum 	85 ms
Backslide delay time after opening of the safety circuits typical	40 ms
Adjustable OFF-delay time after opening of the safety circuits	0.5 ... 30
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"> • of the sensor input minimum • of the ON pushbutton input minimum 	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"> • at DC <ul style="list-style-type: none"> — rated value 	24 V
Operating range factor control supply voltage rated value of magnet coil <ul style="list-style-type: none"> • at DC 	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

Type of electrical connection	Push-in terminal
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • solid 	1x (0.5 ... 1.5 mm ²), 2x (0.5 ... 1.5 mm ²)
<ul style="list-style-type: none"> • finely stranded <ul style="list-style-type: none"> — with core end processing — without core end processing 	1x (0.5 ... 1.0 mm ²), 2x (0.5 ... 1.0 mm ²)
	1x (0.5 ... 1.5 mm ²), 2x (0.5 ... 1.5 mm ²)
Type of connectable conductor cross-sections at AWG conductors	
<ul style="list-style-type: none"> • solid 	1x (20 ... 16), 2x (20 ... 16)
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • safety switch 	Yes
<ul style="list-style-type: none"> • Monitoring of floating sensors 	Yes
<ul style="list-style-type: none"> • Monitoring of non-floating sensors 	Yes
<ul style="list-style-type: none"> • magnetically operated switch monitoring 	Yes
<ul style="list-style-type: none"> • safety-related circuits 	Yes

Certificates/ approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
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[Type Examination Certificate](#)

Declaration of Conformity	Test Certificates	Shipping Approval
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



other	Railway
Confirmation	Confirmation

Further information

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

www.siemens.com/ic10

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK1122-2CB42>

Cax online generator

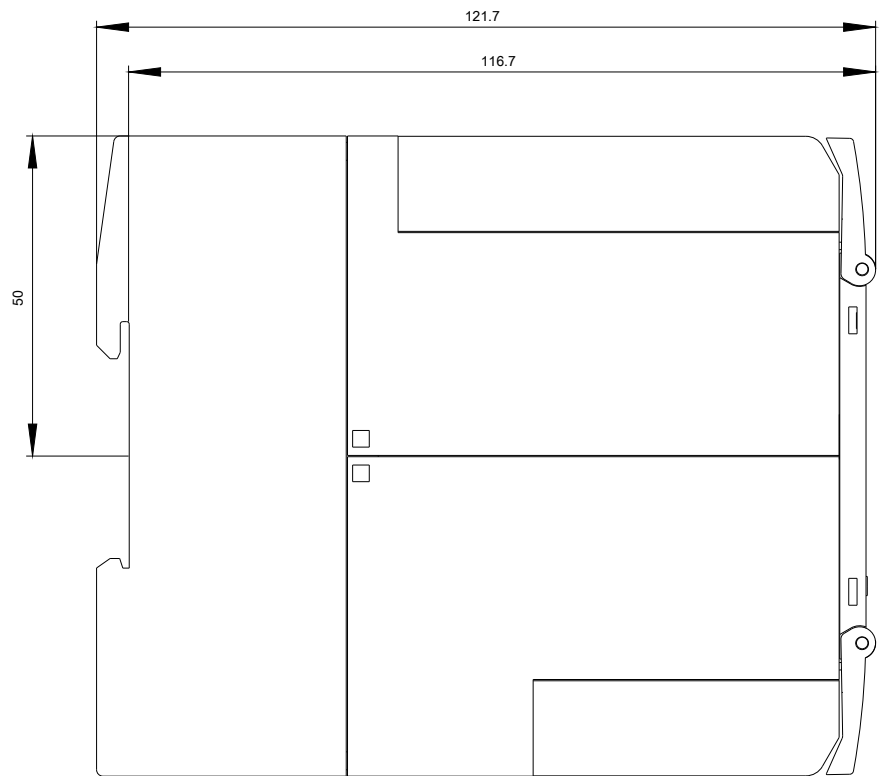
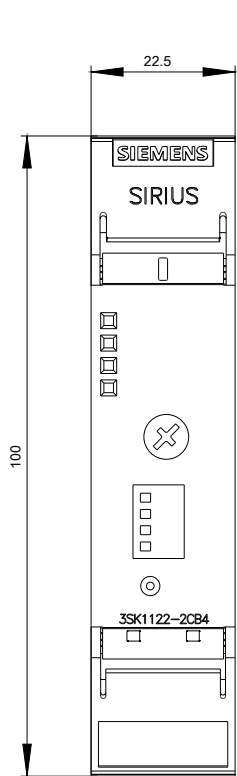
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1122-2CB42>

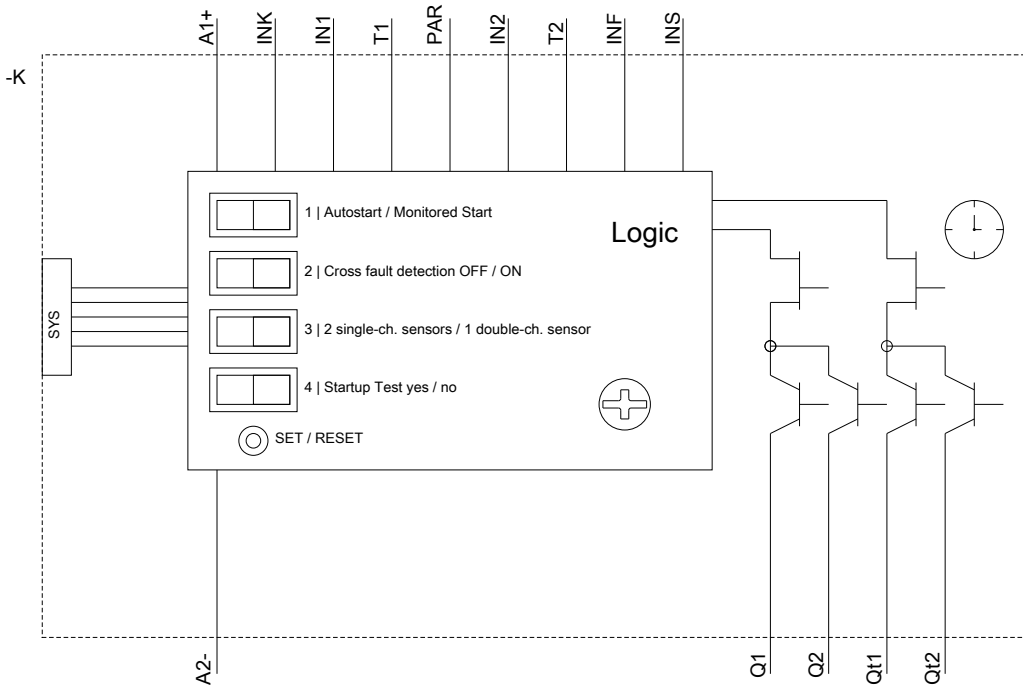
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

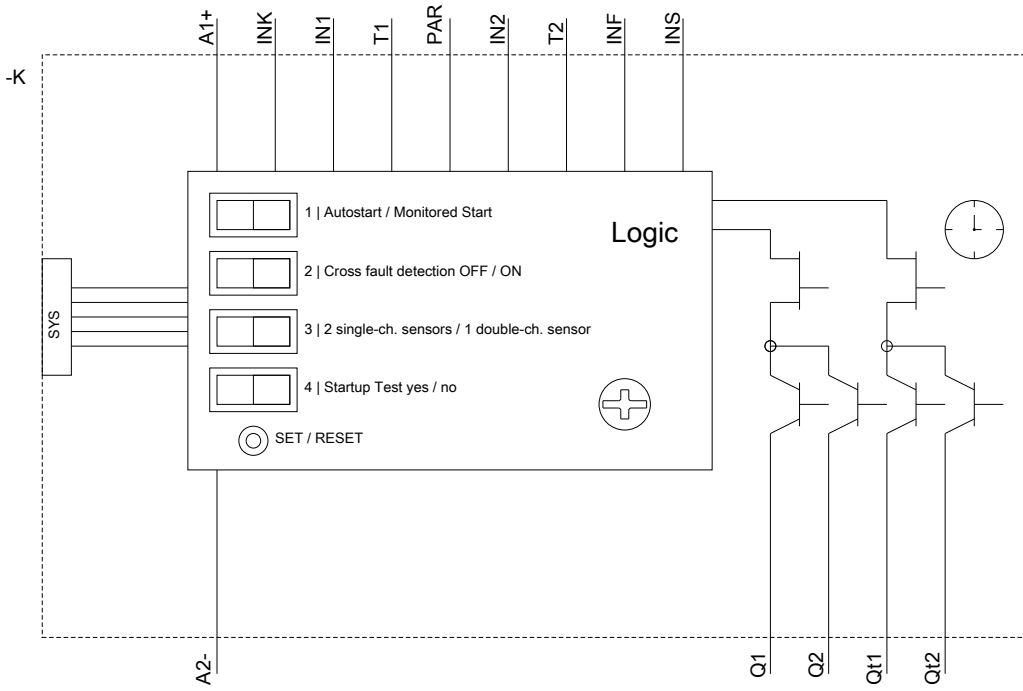
<https://support.industry.siemens.com/cs/ww/en/ps/3SK1122-2CB42>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1122-2CB42&lang=en







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01/18/2020