



SIRIUS safety relay Input expansion Advanced Input expansion for an additional 2-channel or two 1-channel sensors $U_s = 24\text{ V DC}$ Spring-type terminal (push-in)

General technical data	
product brand name	SIRIUS
product category	Safety relays
product designation	Sensor extension
protection class IP of the enclosure	IP20
touch 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	900 ... 1 060 hPa
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 61346-2	F
reference code acc. to IEC 81346-2	F
power loss [W] maximum	1.2 W
number of sensor inputs 1-channel or 2-channel	1
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
performance level (PL) acc. to EN ISO 13849-1	e
category acc. to EN ISO 13849-1	4
PFHD with high demand rate acc. to EN 62061	0.000000001 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 NC contact - for signaling function instantaneous contact - for signaling function delayed switching - safety-related instantaneous contact - safety-related delayed switching - as NO contact - for signaling function instantaneous contact - for signaling function delayed switching - safety-related instantaneous contact - safety-related delayed switching	0 0 0 0 0 0 0 0
number of outputs as contact-less semiconductor switching element	
- for signaling function - delayed switching	0
stop category acc. to DIN EN 60204-1	0
General technical data	
design of input start input	Yes
type of electrical connection plug-in socket	No
wire length between sensor and electronics evaluation device with Cu 1.5 mm² and 150 nF/km maximum	4 000 m
make time with automatic start	
- typical - at DC maximum	60 ms 60 ms
make time with automatic start after power failure	
- typical - maximum	6 500 ms 6 500 ms
make time with monitored start	
- maximum - typical	60 ms 60 ms
backslide delay time after opening of the safety circuits typical	40 ms
recovery time after opening of the safety circuits typical	30 ms
pulse duration	
- 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	
- 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
required spacing with side-by-side mounting at the side	0 mm
fastening method	screw and snap-on mounting
width	17.5 mm
height	100 mm
depth	121.6 mm
Connections/ Terminals	
type of electrical connection	Push-in terminal
type of connectable conductor cross-sections	
solid	1x (0.5 ... 1.5 mm ²), 2x (0.5 ... 1.5 mm ²)

- finely stranded - 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 cables - solid - stranded	1x (20 ... 16), 2x (20 ... 16) 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
suitability for operation device connector 3ZY12	Yes
suitability for interaction press control	No
suitability for use - 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	
certificate of suitability - TÜV (German technical inspectorate) certificate - UL approval	Yes Yes

General Product Approval	EMC
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Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Shipping Approval
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[Type Examination Certificate](#)



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



Shipping Approval	other	Railway
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[Confirmation](#)

[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=3SK1220-2AB40>

Cax online generator

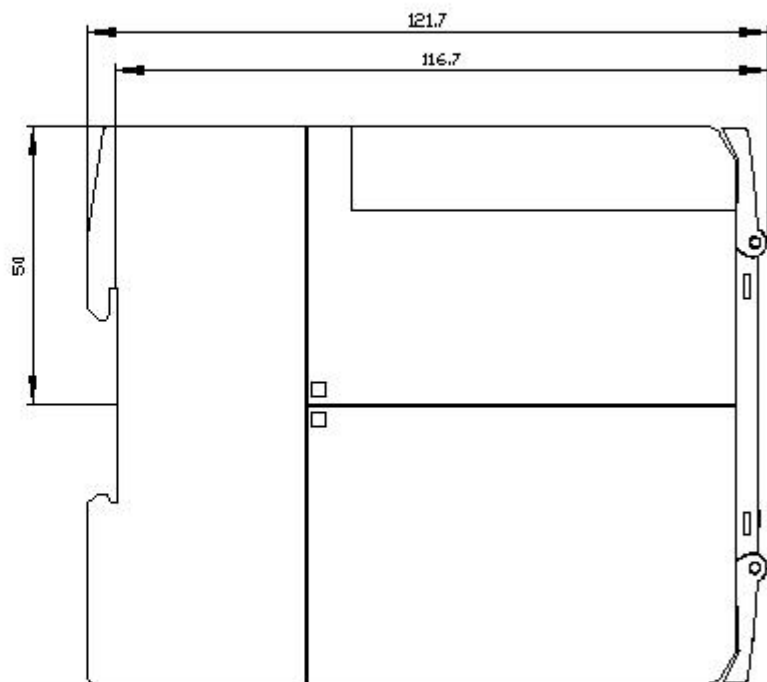
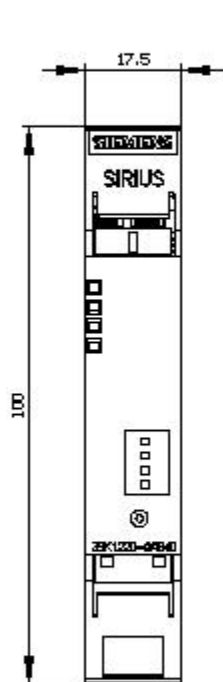
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1220-2AB40>

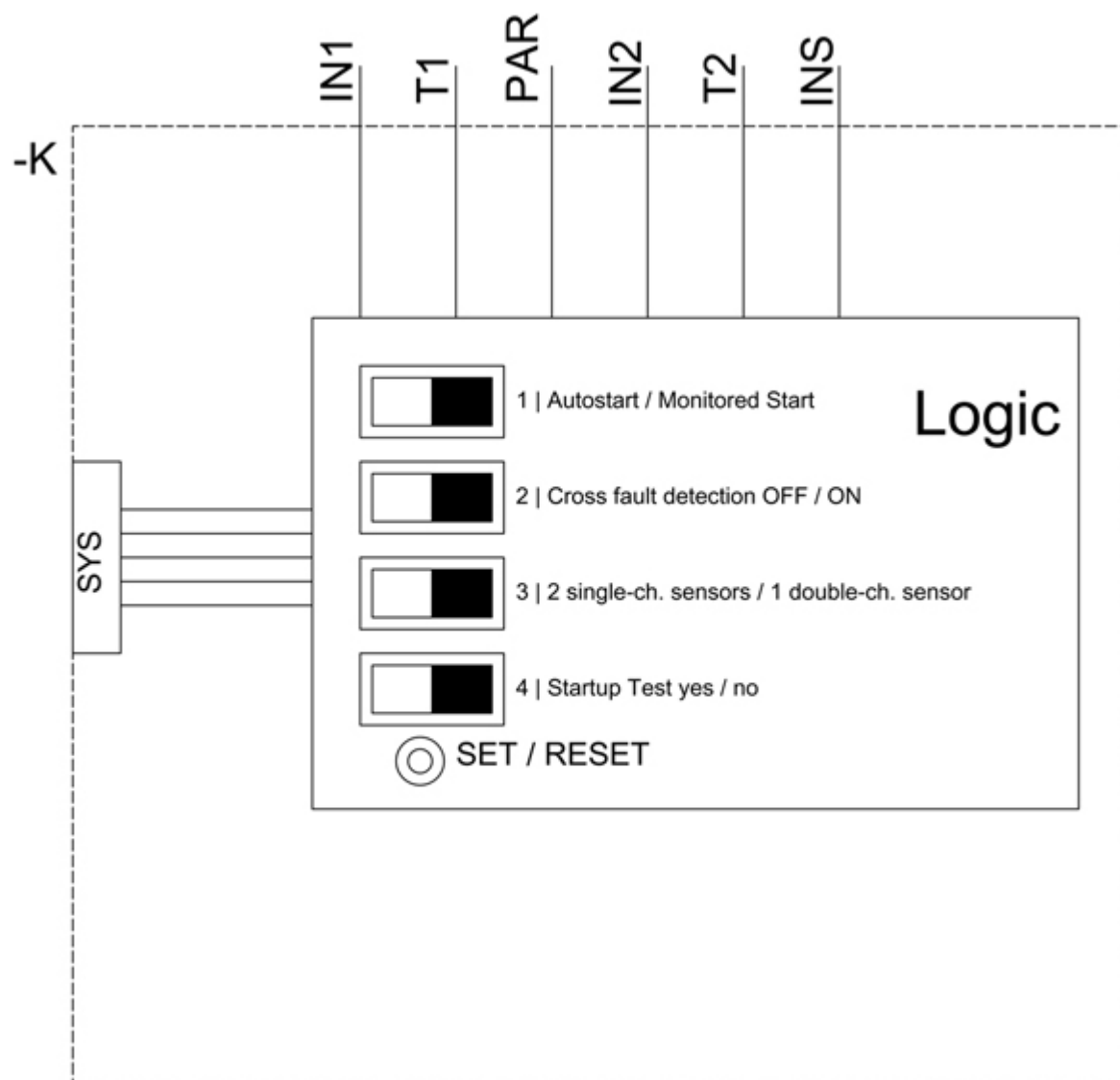
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

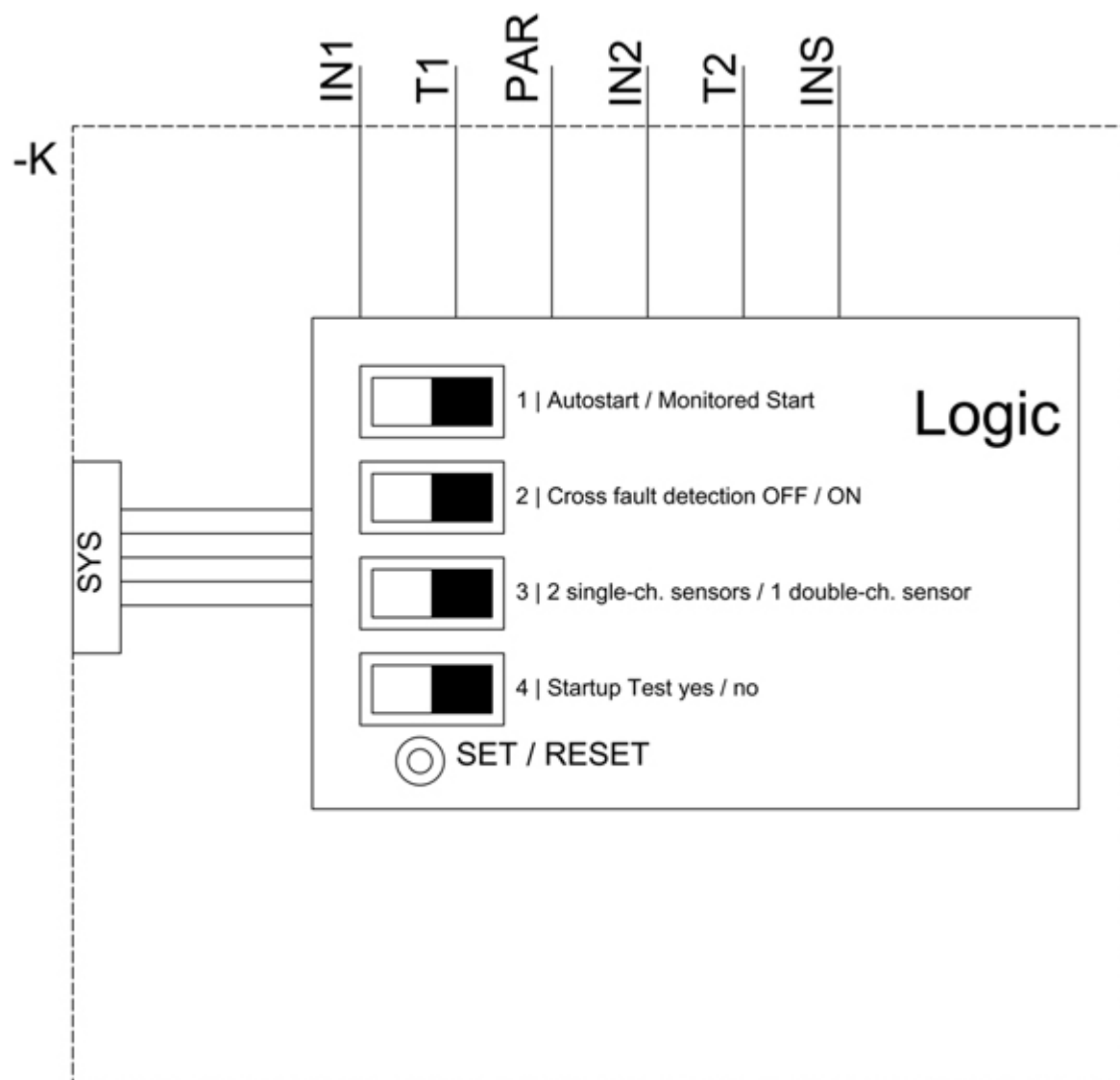
<https://support.industry.siemens.com/cs/ww/en/ps/3SK1220-2AB40>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1220-2AB40&lang=en







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12/23/2020 