

substitute type 3SK1 Advanced !!! phased-out product, successor is 3SK1121-1AB40 !!! !!! derating and changed approval to be considered !!! SIRIUS safety relay Basic unit Advanced series relay enabling circuits 3 NO contacts plus relay signaling circuit 1 NC contact $U_s = 24\text{ V DC}$ screw terminal

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 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
performance level (PL)	
• 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	2.5E-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 IEC 61508	20 a
hardware fault tolerance according to IEC 61508	1
safety device type according to IEC 61508-2	Type B
Inputs/ Outputs	
number of outputs as contact-affected switching element	
• as NC contact	
— for signaling function instantaneous contact	1
• as NO contact	
— safety-related instantaneous contact	3
— safety-related delayed switching	0
stop category according to IEC 60204-1	0
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	5 A
— at 115 V	0.2 A
— at 230 V	0.1 A
— at AC-15	
— at 115 V	5 A
— at 230 V	5 A
• of the NC contacts of the relay outputs	
— at DC-13	
— at 24 V	1 A
— at 115 V	0.2 A
— at 230 V	0.1 A
— at AC-15	
— at 115 V	1.5 A
— at 230 V	1.5 A
thermal current of the switching element with contacts at 40 °C maximum	5 A
thermal current of the switching element with contacts at 60 °C maximum	2 A
total current at 40 °C maximum	12 A
total current at 60 °C maximum	6 A
operational current at 17 V minimum	5 mA
mechanical service life (operating 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
design of the fuse link for short circuit protection of the NC contacts of the relay outputs required	Diazed or Neozed fuses, operating class gL/gG: 6 A or MCB type A: 2 A or MCB type B: 2 A or MCB type C: 1 A
wire length	
• with Cu 1.5 mm ² 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	50 ms
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 (observe derating)
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"> • solid • finely stranded — with core end processing 	1x (0.5 ... 2.5 mm ²), 2x (1.0 ... 1.5 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
type of connectable conductor cross-sections for 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
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	EMV
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[Confirmation](#)



Functional Safety	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)



other	Railway	Environment
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[Confirmation](#)

[Confirmation](#)

[Environmental Conformations](#)

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=3SK1121-1AB40-1AA0>

Cax online generator

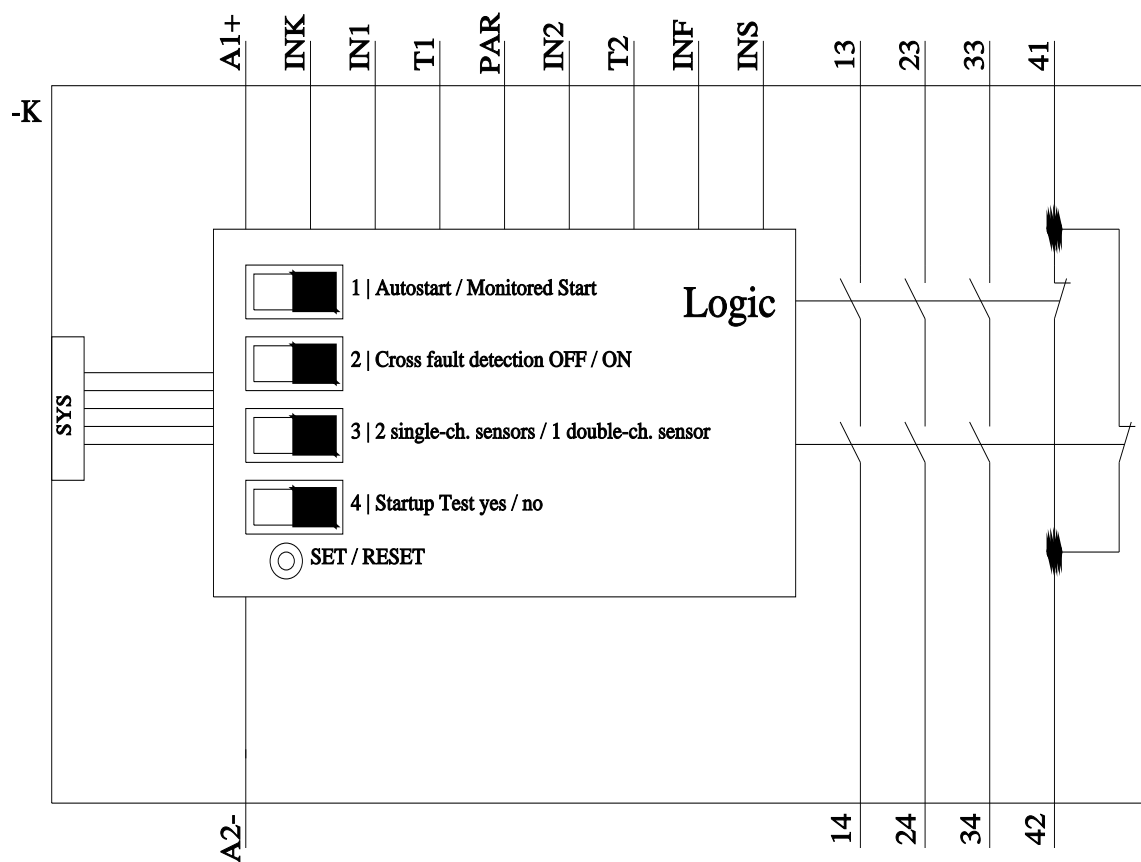
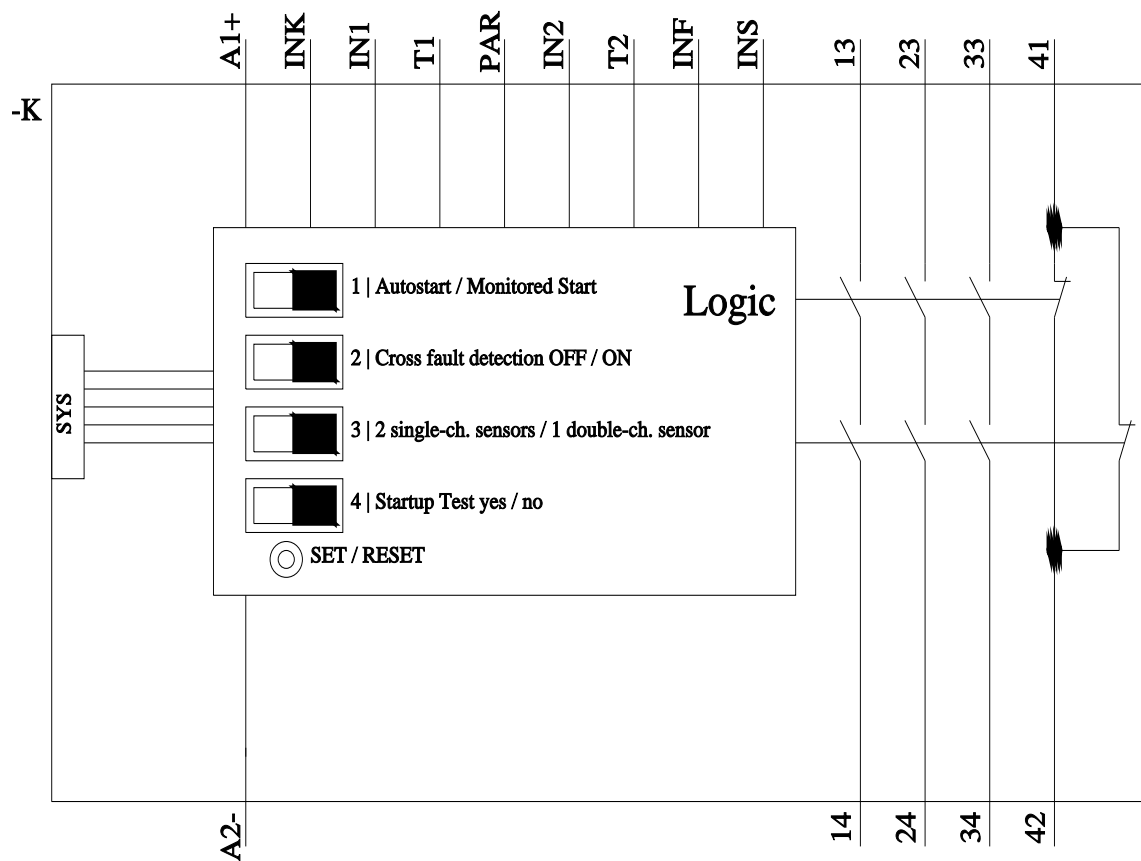
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1121-1AB40-1AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3SK1121-1AB40-1AA0>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1121-1AB40-1AA0&lang=en



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