



SIRIUS SAFETY RELAY BASIC UNIT ADVANCED SERIES RELAY
 ENABLING CIRCUITS 3 NO CONTACTS + RELAY SIGNALING
 CIRCUIT 1 NC CONTACT US = 24 V DC SPRING-LOADED
 TERMINAL

Figure similar

General technical data:	
product brand name	SIRIUS
Product designation	safety relays
Design of the product	For autonomous safety applications
Protection class IP of the enclosure	IP20
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 acc. to SN 31205	90 ... 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	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. It can cause undesired radio-frequency interference in residential environments. If this is the case, the user must take appropriate measures.
Overvoltage category	Installation category III
Degree of pollution	3
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 property cross-circuit-proof	Yes
Safety Integrity Level (SIL) <ul style="list-style-type: none"> • acc. to IEC 61508 	SIL3
Performance level (PL) <ul style="list-style-type: none"> • 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	0.0000000025 1/h
Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508	0.000007 1/y
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 <ul style="list-style-type: none"> • as NC contact <ul style="list-style-type: none"> — for signaling function instantaneous contact — for signaling function delayed switching — safety-related instantaneous contact — safety-related delayed switching • as NO contact <ul style="list-style-type: none"> — for signaling function instantaneous contact — for signaling function delayed switching — safety-related instantaneous contact 	1 0 0 0 0 0 3
Number of outputs as contact-less semiconductor switching element <ul style="list-style-type: none"> • safety-related <ul style="list-style-type: none"> — delayed switching — instantaneous contact • for signaling function instantaneous contact 	0 0 0
Stop category acc. to DIN EN 60204-1	0

General technical data:

Design of input <ul style="list-style-type: none"> • cascading input/functional switching • feedback input • Start input 	Yes Yes Yes
Type of electrical connection Plug-in socket	No
Operating frequency maximum	360 1/h
Switching capacity current	

<ul style="list-style-type: none"> • of the NO contacts of the relay outputs <ul style="list-style-type: none"> — at DC-13 <ul style="list-style-type: none"> — at 24 V — at 115 V — at 230 V — at AC-15 <ul style="list-style-type: none"> — at 115 V — at 230 V • of the NC contacts of the relay outputs <ul style="list-style-type: none"> — at DC-13 <ul style="list-style-type: none"> — at 24 V — at 115 V — at 230 V — at AC-15 <ul style="list-style-type: none"> — at 115 V — at 230 V 	5 A 0.2 A 0.1 A 5 A 5 A 1 A 0.2 A 0.1 A 1.5 A 1.5 A
Thermal current of the switching element with contacts maximum	5 A
Operating 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
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
Cable 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"> • for DC maximum 	110 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 	110 ms
Backslide delay time after opening of the safety circuits typical	40 ms
Backslide delay time in the event of power failure <ul style="list-style-type: none"> • typical • maximum 	30 ms 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	
<ul style="list-style-type: none"> • for DC — Rated value 	24 V
Operating range factor control supply voltage rated value of the magnet coil	
<ul style="list-style-type: none"> • for DC 	0.8 ... 1.2
Active power loss typical	2 W

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
Mounting type	screw and snap-on mounting
Width	22.5 mm
Height	100 mm
Depth	121.6 mm

Connections/ Terminals:

Type of electrical connection	spring-loaded terminals
Type of connectable conductor cross-section	
<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 — 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-section for AWG conductors	
<ul style="list-style-type: none"> • 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	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 	Yes Yes Yes Yes

- safety-related circuits

Yes

Certificates/ approvals:

General Product Approval	EMC	Functional Safety/Safety of Machinery	Declaration of Conformity
 CCC	 C-TICK	Type Examination	 EG-Konf.
 CSA	 UL		

Test Certificates	other
Type Test Certificates/Test Report	Confirmation

Further information

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

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<http://www.siemens.com/industrymall>

Cax online generator

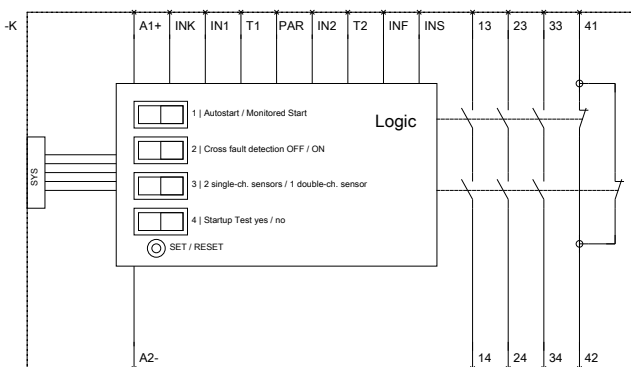
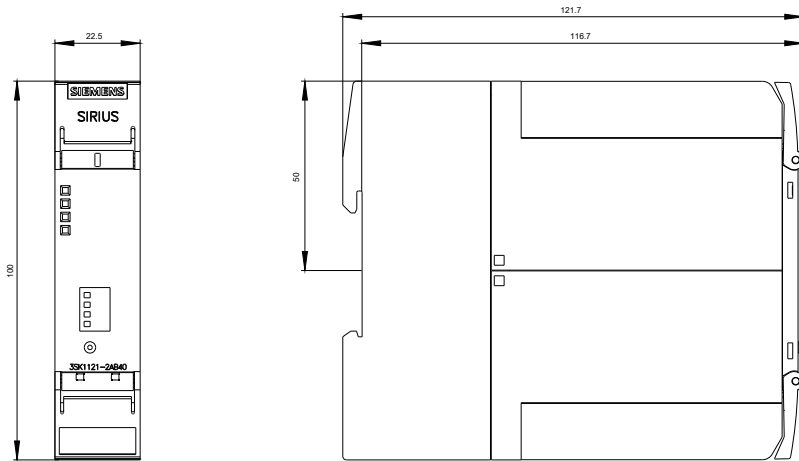
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK11212AB40>

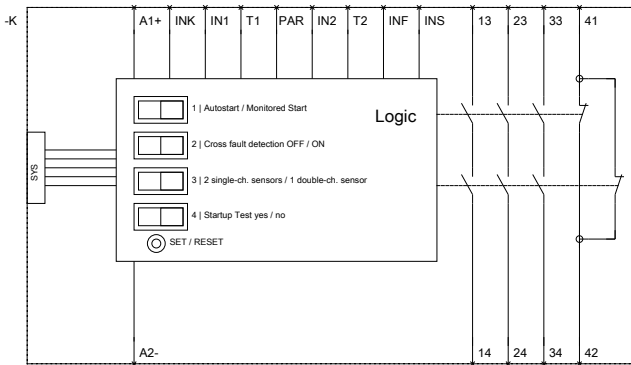
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3SK11212AB40>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK11212AB40&lang=en





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