



Safety System Products

SAFIX I1

RFID Safety Sensor, high coded, autom. reset, M8

Your advantages

- PLe according to EN ISO 13849-1
- Series connection of up to 80 sensors without reduction in safety
- No increase in the response times with series connection
- No special analysis system required
- LED diagnosis
- Single information signal for diagnosis
- Highly coded according to EN ISO 14119 (version I1 and W1)
- Small compact design

To the downloads ►

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Highly coded in a compact design – the latest RFID technology

The SAFIX safety sensors from the company SSP not only impress because of their compact design but also due to their use of the latest RFID technology. Available in 3 different versions with a choice of lower or higher levels of coding according to EN ISO 14119, they offer a high level of protection against manipulation.

SAFIX can be switched in series up to 80 times without any significant increase in response time and can thus be integrated into systems with the highest safety levels (PLe according to ISO 13849-1). Thanks to the 8-pin M8 connector and its OSSD output signals, the SAFIX can be connected to all manner of safety relays and thus perfectly integrated into the existing environment. A three colour LED display offers user-friendly diagnosis and enables fast maintenance and commissioning. The flat actuator means that SAFIX can be quickly and easily installed on a wide variety of applications, irrespective of whether it is a swing door, lifting gate or aluminium profile. Thanks to the 8-pole M8 connector and its OSSD output signals, the SAFIX can be connected to all manner of safety relays and thus perfectly integrated into the existing environment.

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General data

Type designation	SAFIX I1
Item number	SP-K-70-000-01
Functional type	RFID safety sensor, individually coded
Service life TM (EN ISO 13849-1)	20 Years
Coding levels	High (EN ISO 14119)

Safety data

PFHd (EN ISO 13849)	6,8 x 10□¹⁰/h
Category (EN ISO 13849-1:2015)	cat. 4
SIL (acc. IEC 62061)	SIL3, SILCL3
Approvals	TÜV_SÜD, CE

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Environmental conditions	
Max. storage temperature	−25 ... +85 °C
Max. operating temperature	−25 ... +65 °C
Contamination level	3

Electrical data	
Overvoltage category	III
Rated impulse withstand voltage Uimp	0,8 kV
Electrical service life (nominal load)	20 Years
Design / Connections	M8 plug connector
Rated operating voltage Ue	min. 20.4 VDC max. 26.4 VDC V
Rated insulation voltage Ui	32 V
No-load current I0	100 mA
Conditional short-circuit current	100 A
Switching frequency	1
Risk time	< 100 ms
Series connection	The construction of a series connection is possible. Response and risk times remain unchanged even when connected in series. The number of devices is limited only by the external line protection according to the technical data and the line losses.
rated operational voltage U	min. 20,4 VDC max. 26,4 VDC
Safety outputs	Y1 and Y2
Amount of safe semiconductor outputs	2
max. output current safety output	0,25 A
residual current	≤ 0,5 mA
Diagnostic output	p-switch, short circuit proof
Utilisation category	DC-12: 24 V / 0,25 A
cross wireing/short-circuit monitoring possible	Yes
Type of voltage	DC
Rated conditional short-circuit	100 A

pin assignment with SSP accessories cable

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1	A1 Ue
2	X1 safety input 1
3	A2 GND
4	Y1 safety output 1
5	OUT diagnostic output
6	X2 safety input 2
7	Y2 safety output 2
8	IN not used

Mechanical data

Dimensions	
Width	40 mm
Height	29 mm
Mounting	without mounting set with 20 mm screws
Length	18 mm
Housing material	Plastic, thermoplast
Shock resistance	30 g / 11 ms
Vibration resistance	10 ... 55 Hz, amplitude 1 mm Hz
Diagnostic output	Yes
Time to readiness	< 5 s
Cascadable	Yes
Operation plane	Operation at the front and side
Active area	at the front and side
Switching distance Sn	front 12 mm, side 9 mm
Assured switching distance ON S(ao)	front 10 mm, side 6 mm
Assured switching distance OFF S(ar)	front 18 mm, side 15 mm
Hysteresis	max. 2 mm
Repeat accuracy R	< 0,5 mm

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LED diagnostics

Advanced LED diagnosis

Extended LED-Diagnosis

Green	Red	Yellow	Remark
on	off	off	Input circuit OK, Operating voltage OK
on	off	on	Door closed, Sensor has switched
on	off	flashes 1Hz	Safety outputs have switched, switching distance near the limit
off	on	flashes	Sensor in learning mode

Green	Red	Yellow	Remark
flashes 1Hz	off	off	10 minutes break after relearning Door closed and target learned (function only activated in learning mode)
flashes 1Hz	off	on	Error in input circuit X1 or X2. Example: A door in a previous safety circuit is open
off	flashes 1x	on	Error in output Y1
off	flashes 2x	on	Error in output Y2
off	flashes 3x	on	Cross circuit Y1/Y2
off	flashes 5x	on	Wrong or defective actuator

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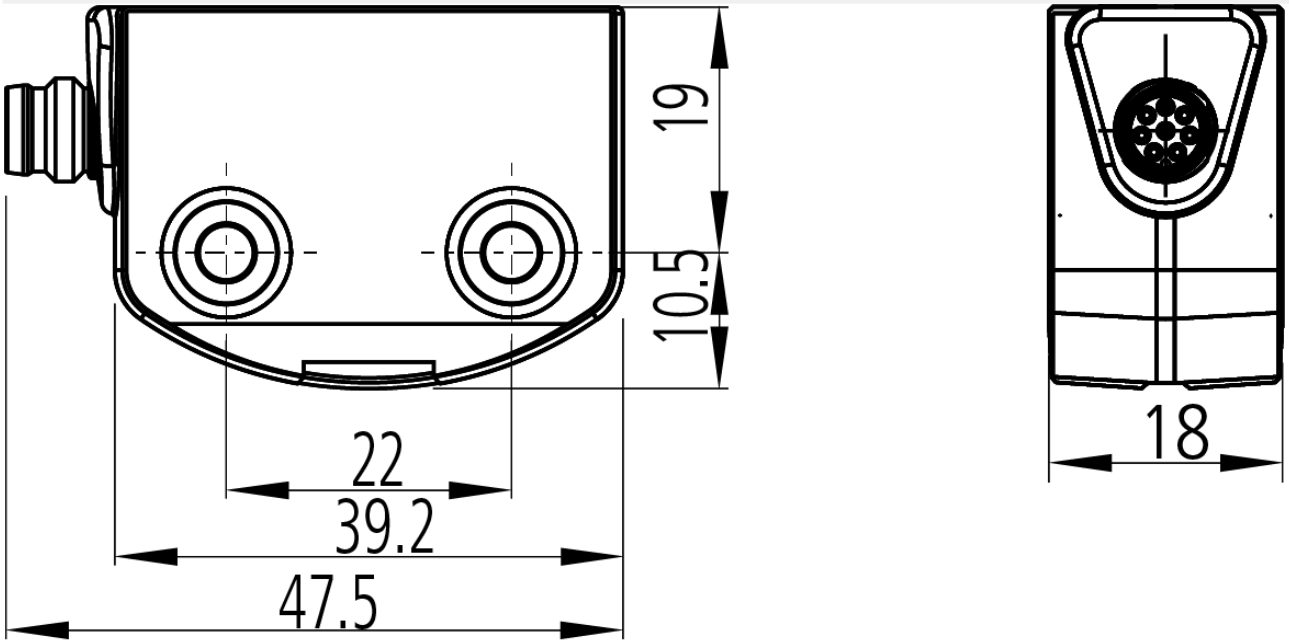
Diagnose function

Examples for diagnosis functions of safety sensors

Sensor function		LED's			Diagnosis output	Safety outputs	Remark
		Green	Red	Yellow		Y1, Y2	
I.	Supply voltage	on	off	off	0 V	0 V	Voltage applied, no valuation of voltage
II.	Dampened	on	off	on	24 V	24 V	The yellow LED signalises a acctuator in the detection zone
III.	Dampened, acctuator in border area	on	off	flashes (1Hz)	24 V clocked	24 V	Sensor should be readjusted, to prevent the distance to the acctuator from widening further, switch off the safety outputs and thus stopping the machine
IV.	Error warning, Sensor dampened	off	flashes	on	0 V	24 V	After 30 min error
V.	Error	off	flashes	on	0 V	0 V	View table blinkcodes
VI.	Target training	off	on	flashes	0 V	0 V	Sensor in training mode
VII.	Protection time	flashes	off	off	0 V	0 V	10 min break after
VIII	Error in Input circle X1, X2	flashes	off	off	0 V	0 V	Input circuit X1 or X2 not present

Drawings

Dimensions



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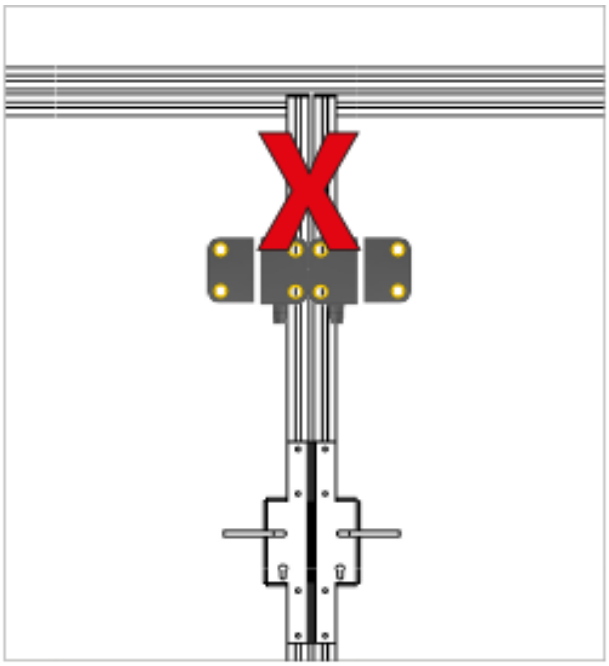
Assembly



Minimum distance between two sensors 100 mm

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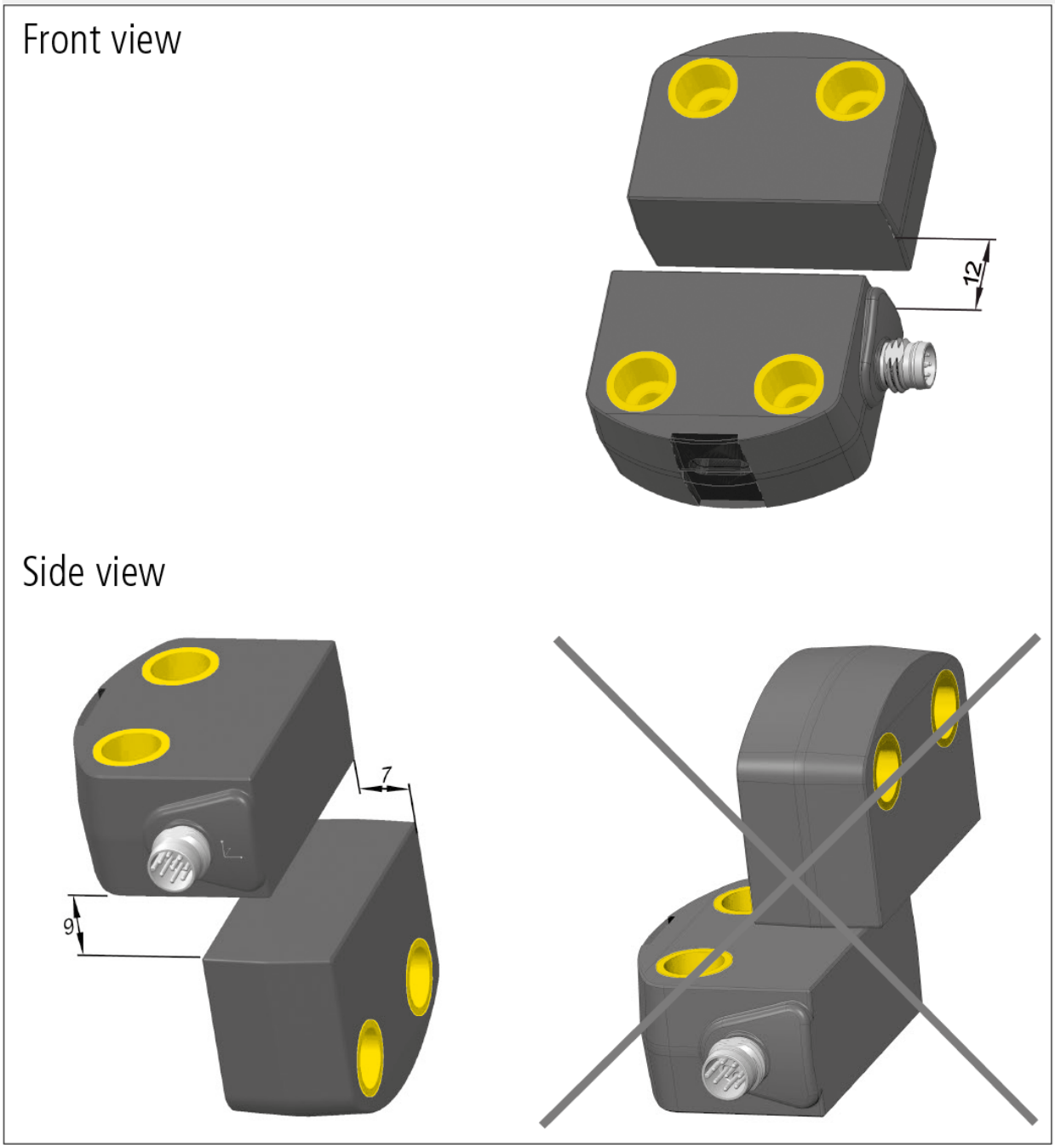
Approach



Equipment

Accessories

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M8-female connector, 8 pin, 10 m	M8-C8101-G	SP-X-33-000-01	
M8-female connector, 8 pin, 90°, 10 m	M8-C8101-V	SP-X-33-000-04	
M8-female connector, 8 pin, 20 m	M8-C8201-G	SP-X-33-000-02	
M8-female connector, 8 pin, 90°, 20 m	M8-C8201-V	SP-X-33-000-05	
M8-female conncetor, 8 pin, 5 m	M8-C851-G	SP-X-33-000-00	
M8-female connector, 8 pin, 90°, 5 m	M8-C851-V	SP-X-33-000-03	
M8-M12-connecting cable, 8 pin, 0,15 m	M8-M12-C80153-VG	SP-X-33-000-18	
M8-M12-connecting cable, 8 pin, 10 m	M8-M12-C8103-G	SP-X-33-000-17	

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M8-M12-connecting cable, 8 pin, 1 m	M8-M12-C813-G	SP-X-33-000-14	
M8-M12-connecting cable, 8 pin, 2 m	M8-M12-C823-G	SP-X-33-000-15	
Safe control technology			
	MOSAIC M1	SP-R-11-000-00	
Standard safety relay 1 safety function	S series	SP-S-00-001-01	
Time delay safety relay 1 safety function	T series	SP-S-00-002-01	
Passive distributor	XCONN P6-M12-5m	SP-X-71-000-00	
Safety switches			
Standard-actuator for SAFIX 1	SAFIX T3	SP-K-70-000-03	

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Flat actuator for SAFIX 1	SAFIX T4	SP-K-70-000-04	
Mounting	SAFIX Z B5	SP-K-71-000-08	
Passive distributor	XCONN P6-M12-10m	SP-X-71-000-04	
Passive distributor	XCONN P6-M12-M23	SP-X-71-000-01	

Downloads

- CAD-Data
- Certificate
- Product line
- Catalog

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