

STR1-SASM03P5

STR1

NON-CONTACT SAFETY SWITCHES





Ordering information

Туре	Part no.
STR1-SASM03P5	1069562

Consists of sensor (1073226) and actuator (1073223)

Other models and accessories → www.sick.com/STR1



Detailed technical data

Features

System part	Sensor with actuator
Sensor principle	RFID
Number of safe outputs	2
Auxiliary contact (AUX)	1 (Switching behavior complementary to OSSDs)
Safe switch on distance S _{ao}	10 mm (-30 °C +70 °C) ¹⁾
Safe switch off distance S _{ar}	25 mm ¹⁾
Active sensor surfaces	3
Active sensor surface	Top, sides (left, right) 2)
Actuation directions	5
Coding	Universally coded

¹⁾ Values apply for the frontal alignment of the sensor to the actuator. A detailed display of the alignment options and values can be found in the operating instructions.

Safety-related parameters

Safety integrity level	SIL 3 (IEC 61508)
Category	Category 4 (EN ISO 13849)
Performance level	PL e (EN ISO 13849)
$\ensuremath{PFH_D}$ (mean probability of a dangerous failure per hour)	5,21 x 10 ⁻⁹
T_{M} (mission time)	20 years (EN ISO 13849)
Туре	Type 4 (EN ISO 14119)
Actuator coding level	Low coding level (EN ISO 14119)
Safe state in the event of a fault	At least one safety-related semiconductor output (OSSD) is in the OFF state.

 $^{^{2)}}$ For details see operating instructions.

Functions

Safe series connection None, only individual wiring (with diagnostics)	
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Interfaces

Connection type	Cable, 5-wire
Length of cable	3 m
Long connecting cable	≤ 200 m
Cable diameter	5.5 mm
Conductor cross section	0.12 mm ²
Bend radius (with fixed installation)	> 8 x cable diameter
Bend radius (with moving cable)	> 12 x cable diameter
Cable material	PVC
Conductor material	Copper
Display elements	LEDs
Diagnostics indicator	✓
Status display	✓

Electrical data

Protection class	III (IEC 61140)
Classification according to cULus	Class 2
Supply voltage V _s	24 V DC (19.2 V DC 28.8 V DC)
Power consumption	50 mA
Type of output	Self-monitoring semiconductor outputs (OSSDs)
Output current	≤ 100 mA
Response time	40 ms ¹⁾
Release time	100 ms ^{1) 2)}
Risk time	80 ms ^{1) 3)}
Switch-on time	2.5 s ⁴⁾

¹⁾ In a safe series connection, each downstream safety switch increases the system response time. More response times can be found in the operating instructions.

Mechanical data

Dimensions (W x H x D)	40 mm x 18 mm x 26 mm
Weight	170 g
Housing material	VISTAL®

Ambient data

Enclosure rating	IP67, IP69K (EN 60529, ISO 20653)
Ambient operating temperature	-30 °C +70 °C ¹⁾
Storage temperature	-30 °C +70 °C

¹⁾ Only applies for safety switches whose serial numbers begin with number series 1825**** or higher. For safety switches whose serial numbers deviate from this, an ambient operating temperature of-10 °C ... +70 °C applies.

 $^{^{2)}}$ Response time on approach to the enable zone.

³⁾ Detection time for internal oder external faults (e.g., short-circuit or cross-circuit of output signal switching devices). Follow the detailed information in the operating instructions.

⁴⁾ The time specified applies to one sensor after the supply voltage has been applied to the safety switch. In a safe series connection, 0.1¬s must be added for each sensor. An additional 0.5¬s per taught-in actuator must be added for uniquely coded and permanently coded sensors.

The serial number is displayed on the safety switch over the data matrix code.

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Vibration resistance	10 Hz 55 Hz, 1 mm (IEC 60068-2-6)	
Shock resistance	30 g, 11 ms (IEC 60068-2-27)	
EMC	EN IEC 61326-3-1, EN IEC 60947-5-2, EN IEC 60947-5-3, EN 300330 V2.1.1	

¹⁾ Only applies for safety switches whose serial numbers begin with number series 1825**** or higher. For safety switches whose serial numbers deviate from this, an ambient operating temperature of 10 °C ... +70 °C applies.

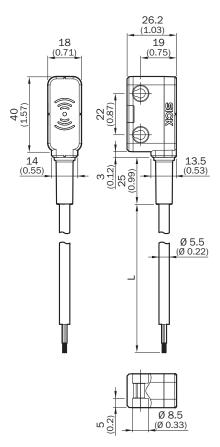
The serial number is displayed on the safety switch over the data matrix code.

Classifications

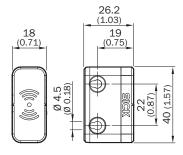
ECLASS 5.0	27272403
ECLASS 5.1.4	27272403
ECLASS 6.0	27272403
ECLASS 6.2	27272403
ECLASS 7.0	27272403
ECLASS 8.0	27272403
ECLASS 8.1	27272403
ECLASS 9.0	27272403
ECLASS 10.0	27272403
ECLASS 11.0	27272403
ECLASS 12.0	27274601
ETIM 5.0	EC001829
ETIM 6.0	EC001829
ETIM 7.0	EC001829
ETIM 8.0	EC001829
UNSPSC 16.0901	39122205

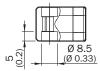
Dimensional drawing (Dimensions in mm (inch))

Sensor with cable



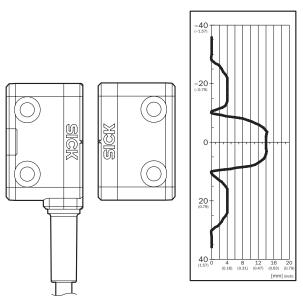
"Standard" actuator



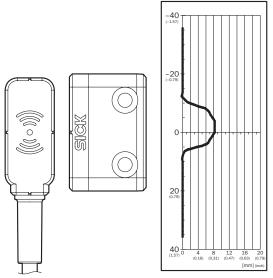


Response range

"Standard" actuator, active front sensor surface

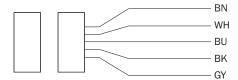


Assured switch on distance Sao 10 mm. Observe border areas for parallel approach: a minimum distance of 6 mm (typical) must be upheld when the actuator moves laterally to the sensor surface. This prevents early triggering due to the side preparation areas. "Standard" actuator, active side sensor surface



Safe switch on distance $S_{ao}\ 6\ mm$

Pin assignment



Brown	Voltage supply 24 V DC
White	OSSD 1
Blue	Voltage supply 0 V DC
Black	OSSD 2
Grey	Aux output (not safe)

Recommended accessories

Other models and accessories → www.sick.com/STR1

	Brief description	Туре	Part no.
Nuts and scre	ws		
	10 pieces	Safety screws M4 x 20	5333571

SICK AT A GLANCE

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