

Safety Magnetic Switch Sense7



Approvals:



Application:

- Gates
- Hatches
- Position control

Features:

- Small size
- Up to IP69K
- LED
- 2NC + 1NO
- Solid State outputs

Switch operational description

The coded non-contact switches Sense7 are designed to interlock hinged, sliding or removable guard doors. Its design makes it advantageous to operate in environments that require the highest level of safety.

The magnetic switch is small in size which makes it easy to position and hide on gates and hatches. Sense7 is resistant to both dirt and water, and has no dust collecting cavities, which make it useful in environments where hygiene is paramount. The magnetic switch has a long working life since no mechanical contact is necessary for operation. Sensing distance of Sense7 is 14 mm and it has a high tolerance to misalignment. Actuator is always delivered with the non-contact switch.

Material

The Sense7 switch is available in UL approved polyester and in stainless steel 316. The stainless steel has a mirror polished finished (Ra4) suitable for CIP cleaning - food splash zones according to EHEDG guidelines.

Protection from unauthorised or incidental access

To avoid unauthorised operation of the Sense7 switch, it is only possible to actuate the coded magnetic switch with the coded magnet. Other magnets, screwdrivers and tools have no effect on the switch contacts.

Safety level

The Sense7 has two closing and one opening contact. Two contacts have to be monitored to achieve the highest level of safety regulations, PL e/Cat. 4 according to EN ISO13849-1 together with safety relay or Safety Pluto PLC.

Regulations and Standards

The Sense7 is designed and approved in accordance to relevant standards. Examples of relevant standards are EN1088, IEC/EN 60947-5-3, EN 60204-1, EN ISO 13849-1, EN 62061 and UL 508.



Sensing distance 14 mm

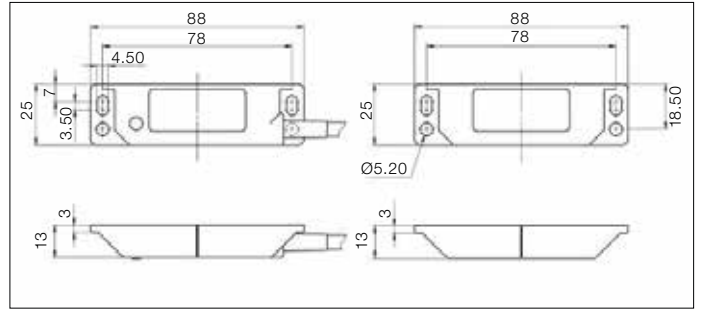


Quick connected version fitted with 250 mm cable and M12.

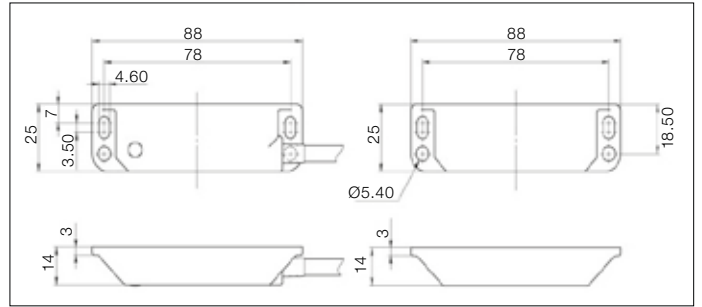
NOTE! Sense7 versions have 2NC and 1NO circuits. For all Sense7 switches the NC circuits are closed when the guard is closed and the actuator present.

Technical data – Sense7 series

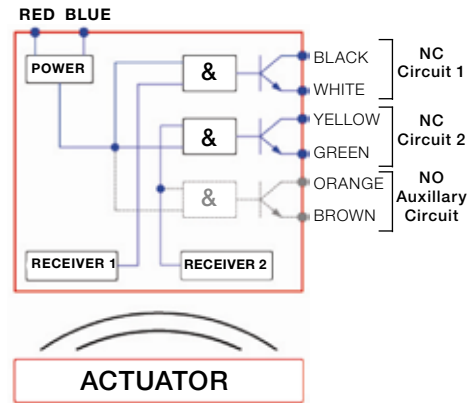
Article number	
Plastic	
Sense7 - 2 m cable	2TLA050056R4100
Sense7 - 5 m cable	2TLA050056R5100
Sense7 - 10 m cable	2TLA050056R6100
Sense7 - 250 mm cable with M12	2TLA050056R2100
Stainless steel	
Sense7Z - 2 m cable	2TLA050056R4120
Sense7Z - 5 m cable	2TLA050056R5120
Sense7Z - 10 m cable	2TLA050056R6120
Sense7Z - 250 mm cable with M12	2TLA050056R2120
Level of Safety	
EN ISO 13849-1	Up to PL e/Cat. 4 depending upon system architecture
EN 62061	Up to SIL3 depending upon system architecture
Safety data	
PFH _D	2.52 x 10 ⁻⁸
Switching reliability	3.3 x 10 ⁶ operations at 100mA load 47 years
Proof test interval (life)	470 years (8 cycles per hour/24 hours per day/365 days)
MTTF _d	hours per day/365 days)
Safety channel 1NC	24 VDC 0.2 A max. rating
Safety channel 2NC	24 VDC 0.2 A max. rating
Safety channel 3NO	24 VDC 0.2 A max. rating
Power supply	24 VDC ±10%
Minimum switched current	10 VDC 1mA
Dielectric withstand	250 VAC
Insulation resistance	100 MOhm
Recommended setting gap	5 mm
Switching distance (target to target)	Sao 10 mm close (on) Sar 20 mm open (off)
Tolerance to misalignment	5 mm in any direction from 5 mm setting gap
Switching frequency	1.0 Hz maximum
Approach speed	200 mm/m to 1000 mm/s
Vibration resistance	IEC 68-2-6, 10-55 Hz 1 mm
Shock resistance	IEC 68-2-27, 11 ms, 30 g
Enclosure protection	IP67 and IP69K
Cable type	PVC 8 core 6 mm O.D
Operating temperature	
Sense7	-25°C to +80°C
Sense7Z	-25°C to +105°C
Material	
Sense7	UL approved polyester
Sense7Z	Stainless steel 316
Colour	Red or stainless steel
Mounting position	Any
Mounting bolts (Tightening torque)	2 x M4 (1.0 Nm)



Dimension Sense7

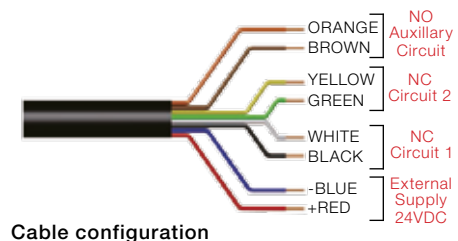


Dimension Sense7Z



Electrical connection

M12 8pol	Sense7 - 250 mm cable with M12 (Pin view from switch)	Colours
1	1	White
2	2	Red
3	3	Blue
4	4	Yellow
5	5	Brown
6	6	Green
7	7	Black
8	8	Orange



Cable configuration