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 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 unauthorized or incidental access
To avoid unauthorized 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
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.

Features:
- Small size
- IP67 and IP69K
- LED
- 2NC + 1NO
- Solid State outputs

Application:
- Gates
- Hatches
- Position control

Approvals: [CE, UL, FS]
**Technical data – Sense7 series**

<table>
<thead>
<tr>
<th>Article number</th>
<th>Sense7Z - 2 m cable</th>
<th>Sense7Z - 5 m cable</th>
<th>Sense7Z - 10 m cable</th>
<th>Sense7Z - 250 mm cable with M12</th>
<th>Sense7Z, Spare Actuator</th>
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<tr>
<td></td>
<td>2TLA050056R4120</td>
<td>2TLA050056R5120</td>
<td>2TLA050056R6120</td>
<td>2TLA050056R2120</td>
<td>2TLA050040R0212</td>
</tr>
</tbody>
</table>

**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**
- PHF: $2.52 \times 10^{-8}$
- Switching reliability: $3.3 \times 10^9$ operations at 100mA load for 47 years
- Proof test interval (life): 470 years (8 cycles per hour/24 hours per day/365 days)
- MTTF: 47 years

**Switching distance**
- 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 MΩhm

**Recommended setting gap**
- 5 mm

**Switching distance (target to target)**
- 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

**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**
- Sense7Z: -25°C to +105°C

**Material**
- Sense7Z: Stainless steel 316

**Color**
- Stainless steel

**Mounting position**
- Any

**Mounting bolts**
- 2 x M4 (Tightening torque: 1.0 Nm)

**Colours**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White</td>
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<tr>
<td>2</td>
<td>Red</td>
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</tr>
<tr>
<td>7</td>
<td>Black</td>
</tr>
<tr>
<td>8</td>
<td>Orange</td>
</tr>
</tbody>
</table>

**Dimensions Sense7Z**

**Electrical connection**

**Cable configuration**