



**IM05-0B8NS-ZW1**

IMM

**INDUCTIVE PROXIMITY SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type           | Part no. |
|----------------|----------|
| IM05-OB8NS-ZW1 | 6020155  |

Other models and accessories → [www.sick.com/IMM](http://www.sick.com/IMM)

## Detailed technical data

### Features

|  |  |
|--|--|
| <b>Housing</b>                             | Metric   |
| <b>Housing</b>                             | Standard design  |
| <b>Thread size</b>                         | M5 x 0.5   |
| <b>Diameter</b>                            | Ø 5 mm   |
| <b>Sensing range <math>S_n</math></b>      | 0.8 mm   |
| <b>Safe sensing range <math>S_a</math></b> | 0.648 mm   |
| <b>Installation type</b>                   | Flush  |
| <b>Switching frequency</b>                 | 5,000 Hz   |
| <b>Connection type</b>                     | Cable, 3-wire, 2 m   |
| <b>Switching output</b>                    | NPN  |
| <b>Output function</b>                     | NO   |
| <b>Electrical wiring</b>                   | DC 3-wire  |
| <b>Enclosure rating</b>                    | IP67 <sup>1)</sup>   |
| <b>Items supplied</b>                      | Mounting nut, V2A stainless steel (2x)<br>Washer, V2A stainless steel, with locking teeth (2x) |

<sup>1)</sup> According to EN 60529.

### Mechanics/electronics

|  |  |
|--|--|
| <b>Supply voltage</b>                          | 10 V DC ... 30 V DC                          |
| <b>Ripple</b>                                  | ≤ 20 % <sup>1)</sup>                         |
| <b>Voltage drop</b>                            | ≤ 2 V <sup>2)</sup>                          |
| <b>Time delay before availability</b>          | ≤ 10 ms                                      |
| <b>Hysteresis</b>                              | 1 % ... 10 %                                 |
| <b>Reproducibility</b>                         | ≤ 1.5 % <sup>3)</sup>                        |
| <b>Temperature drift (of <math>S_n</math>)</b> | ≤ 10 %                                       |
| <b>EMC</b>                                     | EN 60947-5-2<br>IEC 61000-4-2: (Testlevel 2) |

<sup>1)</sup> Of  $V_S$ .

<sup>2)</sup> With  $I_a = 200$  mA.

<sup>3)</sup> Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

|                                       |  |
|---------------------------------------|--|
|                                       | IEC 61000-4-4: (Testlevel 2)               |
| <b>Cable material</b>                 | PVC  |
| <b>Conductor size</b>                 | 0.14 mm <sup>2</sup>                       |
| <b>Cable diameter</b>                 | Ø 3.5 mm                                   |
| <b>Short-circuit protection</b>       | ✓  |
| <b>Shock and vibration resistance</b> | 30 g, 11 ms / 10 ... 55 Hz, 1 mm           |
| <b>Ambient operating temperature</b>  | -25 °C ... +70 °C                          |
| <b>Housing material</b>               | Stainless steel V2A, DIN 1.4305 / AISI 303 |
| <b>Sensing face material</b>          | Plastic, POM                               |
| <b>Housing length</b>                 | 25 mm                                      |
| <b>Thread length</b>                  | 20 mm                                      |
| <b>Tightening torque, max.</b>        | ≤ 1.5 Nm                                   |
| <b>UL File No.</b>                    | NRKH.E191603                               |

<sup>1)</sup> Of  $V_S$ .

<sup>2)</sup> With  $I_a = 200$  mA.

<sup>3)</sup> Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

### Safety-related parameters

|                                     |           |
|-------------------------------------|-----------|
| <b>MTTF<sub>D</sub></b>             | 186 years |
| <b>DC<sub>avg</sub></b>             | 0%        |
| <b>T<sub>M</sub> (mission time)</b> | 20 years  |

### Reduction factors

|                                   |  |
|-----------------------------------|--|
| <b>Note</b>                       | The values are reference values which may vary |
| <b>Stainless steel (V2A, 304)</b> | Approx. 0.8                                    |
| <b>Aluminum (Al)</b>              | Approx. 0.5                                    |
| <b>Copper (Cu)</b>                | Approx. 0.45                                   |
| <b>Brass (Br)</b>                 | Approx. 0.55                                   |

### Installation note

|               |                                       |
|---------------|---------------------------------------|
| <b>Remark</b> | Associated graphic see "Installation" |
| <b>A</b>      | 0.8 mm                                |
| <b>B</b>      | 0 mm                                  |
| <b>C</b>      | 5 mm                                  |
| <b>D</b>      | 2.4 mm                                |
| <b>E</b>      | 0 mm                                  |
| <b>F</b>      | 7 mm                                  |

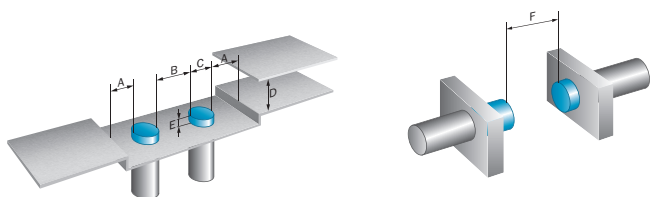
### Classifications

|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270101 |
| <b>ECLASS 5.1.4</b> | 27270101 |
| <b>ECLASS 6.0</b>   | 27270101 |
| <b>ECLASS 6.2</b>   | 27270101 |
| <b>ECLASS 7.0</b>   | 27270101 |
| <b>ECLASS 8.0</b>   | 27270101 |

|                       |          |
|-----------------------|----------|
| <b>ECLASS 8.1</b>     | 27270101 |
| <b>ECLASS 9.0</b>     | 27270101 |
| <b>ECLASS 10.0</b>    | 27270101 |
| <b>ECLASS 11.0</b>    | 27270101 |
| <b>ECLASS 12.0</b>    | 27274001 |
| <b>ETIM 5.0</b>       | EC002714 |
| <b>ETIM 6.0</b>       | EC002714 |
| <b>ETIM 7.0</b>       | EC002714 |
| <b>ETIM 8.0</b>       | EC002714 |
| <b>UNSPSC 16.0901</b> | 39122230 |

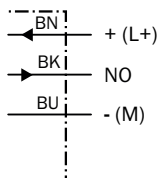
### Installation note

Flush installation



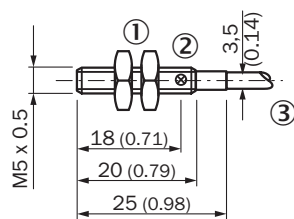
### Connection diagram

Cd-001



### Dimensional drawing (Dimensions in mm (inch))

Standard-body, flush, cable



- ① Connection
- ② Display LED
- ③ Fastening nuts (2 x); 7 mm hex, stainless steel

## Recommended accessories

Other models and accessories → [www.sick.com/IMM](http://www.sick.com/IMM)

|   | Brief description   | Type               | Part no. |
|---|---|--------------------|----------|
| Terminal and alignment brackets   |   |                    |          |
|    | Plastic (PA6), without mounting hardware  | BEF-KH-M05         | 2101066  |
| Others  |   |                    |          |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals</li> </ul>  | YF8U13-020VA1XLEAX | 2095860  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals</li> </ul>  | YF8U13-050VA1XLEAX | 2095884  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 10 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals</li> </ul> | YF8U13-100VA1XLEAX | 2095885  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals</li> </ul>    | YG8U13-020VA1XLEAX | 2096165  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals</li> </ul>    | YG8U13-050VA1XLEAX | 2096166  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 10 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals</li> </ul>   | YG8U13-100VA1XLEAX | 2096209  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 3-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>  | STE-0803-G         | 6037322  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>  | DOS-0803-G         | 7902077  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Solder connection</li> <li><b>Permitted cross-section:</b> ≤ 0.25 mm<sup>2</sup></li> </ul>  | DOS-0803-W         | 7902078  |

|   | Brief description   | Type               | Part no. |
|---|---|--------------------|----------|
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Male connector, M12, 3-pin, straight, A-coded</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 3-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul> | YF8U13-020VA1M2A13 | 2096605  |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Male connector, M12, 3-pin, straight, A-coded</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 3-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul> | YF8U13-050VA1M2A13 | 2096606  |

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)