

# IMM04-01BNSVR8K

IMM

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	part no.
IMM04-01BNSVR8K	1114511

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



### Detailed technical data

#### Features

<b>Housing</b>	Metric
<b>Housing</b>	Short-body
<b>Thread size</b>	M4 x 0.5
<b>Diameter</b>	Ø 4 mm
<b>Sensing range <math>S_n</math></b>	1 mm
<b>Safe sensing range <math>S_a</math></b>	0.81 mm
<b>Installation type</b>	Flush
<b>Switching frequency</b>	4,200 Hz
<b>Connection type</b>	Cable with connector M8, 3-pin, 0.2 m
<b>Switching output</b>	NPN
<b>Switching output detail</b>	NPN
<b>Output function</b>	NO
<b>Electrical wiring</b>	DC 3-wire
<b>Enclosure rating</b>	IP67 <sup>1)</sup>
<b>Special features</b>	Visual adjustment indicator
<b>Items supplied</b>	Mounting nut, V2A stainless steel (2x) Washer, V2A stainless steel, with locking teeth (2x) Cable flag, Polymatic 50 (1 x)

<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>

<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  $T_a$ .

<b>Voltage drop</b>	$\leq 2 V^{2)}$
<b>Time delay before availability</b>	$\leq 10 \text{ ms}$
<b>Hysteresis</b>	1 % ... 15 %
<b>Reproducibility</b>	$\leq 2.5 \%^{3)}$
<b>Temperature drift (of <math>S_r</math>)</b>	$\leq 10 \%$
<b>EMC</b>	EN 60947-5-2
<b>Continuous current <math>I_a</math></b>	$\leq 100 \text{ mA}$
<b>Cable material</b>	PUR
<b>Cable diameter</b>	$\varnothing 2.5 \text{ mm}$
<b>Short-circuit protection</b>	✓
<b>Power-up pulse 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, LCP
<b>Housing length</b>	12 mm
<b>Thread length</b>	10 mm
<b>Tightening torque, max.</b>	$\leq 0.8 \text{ Nm}$
<b>UL File No.</b>	NRKH.E348498

1) Of  $V_S$ .

2) With  $I_a = 200 \text{ mA}$ .

3) Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,804 years
<b>DC<sub>avg</sub></b>	0 %

### Reduction factors

<b>Note</b>	The values are reference values which may vary
<b>St37 steel (Fe)</b>	1
<b>Stainless steel (V2A, 304)</b>	Approx. 0.7
<b>Aluminum (Al)</b>	Approx. 0.49
<b>Copper (Cu)</b>	Approx. 0.4
<b>Brass (Br)</b>	Approx. 0.55

### Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>B</b>	3 mm
<b>C</b>	4 mm
<b>D</b>	3 mm
<b>F</b>	8.5 mm

### Certificates

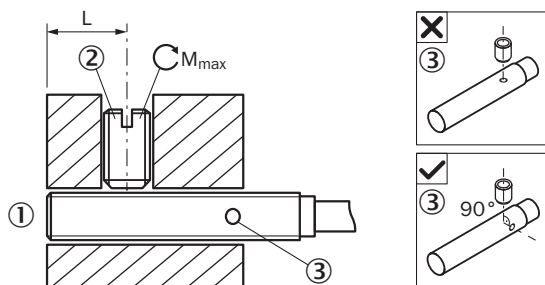
<b>EU declaration of conformity</b>	✓
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UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
IO-Link certificate	✓

### Classifications

ECLASS 5.0	27270101
ECLASS 5.1.4	27270101
ECLASS 6.0	27270101
ECLASS 6.2	27270101
ECLASS 7.0	27270101
ECLASS 8.0	27270101
ECLASS 8.1	27270101
ECLASS 9.0	27270101
ECLASS 10.0	27270101
ECLASS 11.0	27270101
ECLASS 12.0	27274001
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
ETIM 8.0	EC002714
UNSPSC 16.0901	39122230

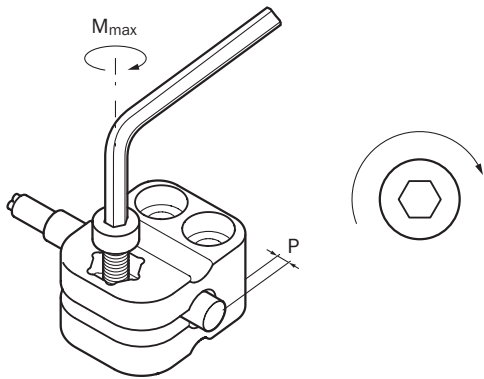
### Installation note Fixing with setscrew



- ① Sensing face
- ② Recommended setscrew: M3, flat point
- ③ Display LED

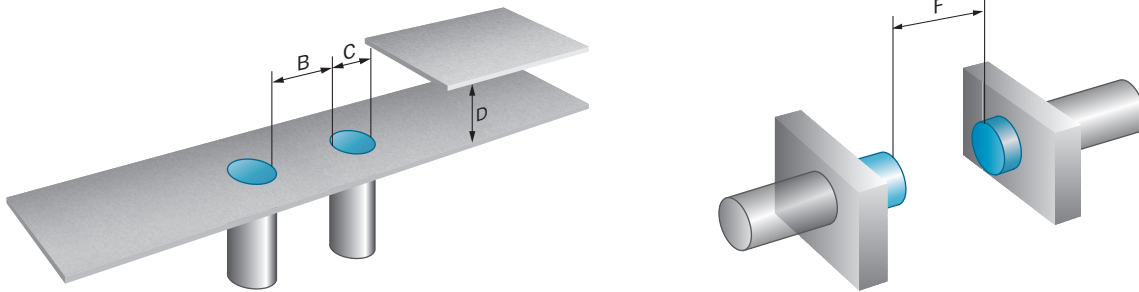
Sensor type	Mounting area (L)	Max. tightening torque ( $M_{max}$ )
IMM04-01B*****K	5.5 mm ... 9 mm	$\leq 0.2$ Nm
IMM04-0B6*****S IMM04-01B*****S	5.5 mm ... 19 mm	$\leq 0.2$ Nm

Installation note Mounting using BEF-KH-M04 bracket

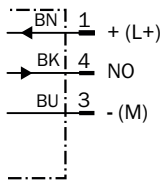


Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque ( $M_{max}$ )
IMM04-0B6***** IMM04-01B*****	BEF-KH-M04, part no. 2101065	$\geq 0$ mm	$\leq 0.6$ Nm

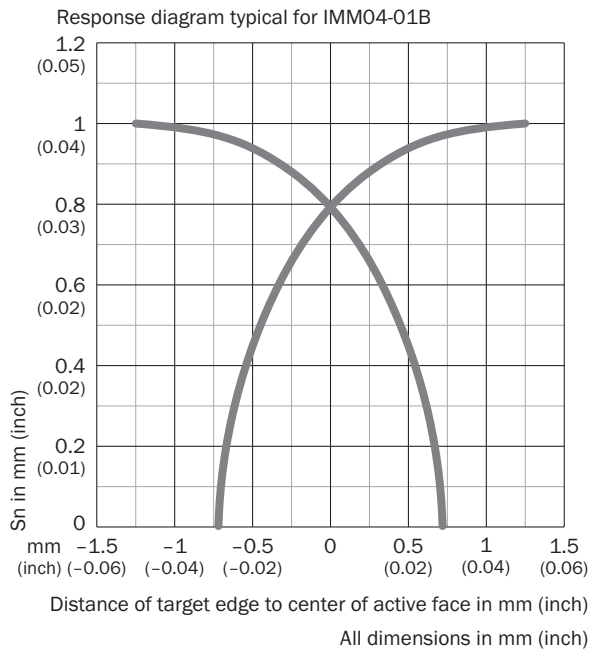
Installation note Flush installation



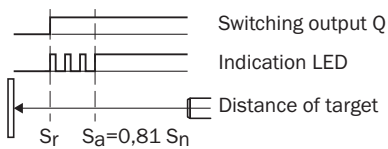
Connection diagram Cd-002



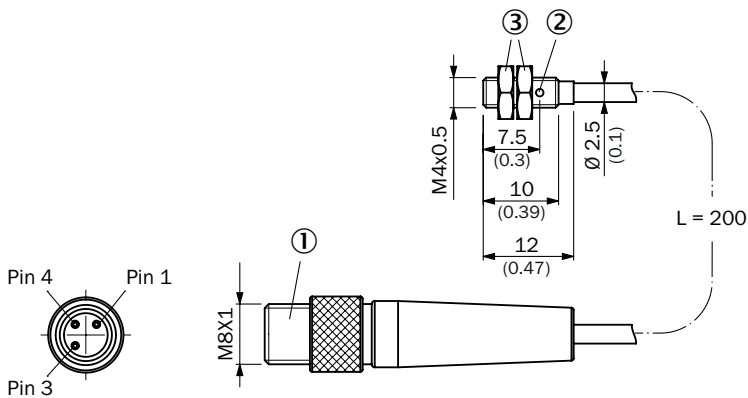
Response diagram



Functional principle Installation aid



Dimensional drawing IMM04, short variant, flush, pigtail




Dimensions in mm (inch)

- ① Connection
- ② function indicator
- 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.
Mounting systems			
	<ul style="list-style-type: none"><li>• <b>Material:</b> Plastic</li><li>• <b>Details:</b> Plastic (PA6)</li><li>• <b>Items supplied:</b> Without mounting hardware</li><li>• <b>Usable for:</b> Round sensors with 4 mm housing diameter without fixed stop</li></ul>	BEF-KH-M04	2101065

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Number of slots:</b> 4</li> <li>• <b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</li> <li>• <b>Items supplied:</b> 5 x labeling plates</li> <li>• <b>Description:</b> Unshielded</li> </ul>	Y8A34A2-C2A8000XXX	2115733
	<ul style="list-style-type: none"> <li>• <b>Number of slots:</b> 4</li> <li>• <b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</li> <li>• <b>Items supplied:</b> 5 x labeling plates</li> <li>• <b>Cable:</b> 5 m, 6-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Application:</b> Drag chain operation</li> </ul>	Y8A34A2-LXXXUAA050	2115727
	<ul style="list-style-type: none"> <li>• <b>Number of slots:</b> 6</li> <li>• <b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</li> <li>• <b>Items supplied:</b> 5 x labeling plates</li> <li>• <b>Description:</b> Unshielded</li> </ul>	Y8A36A2-C2A8000XXX	2115734
	<ul style="list-style-type: none"> <li>• <b>Number of slots:</b> 6</li> <li>• <b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</li> <li>• <b>Items supplied:</b> 5 x labeling plates</li> <li>• <b>Cable:</b> 5 m, 8-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Application:</b> Drag chain operation</li> </ul>	Y8A36A2-LXXXUBA050	2115728
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection type head A:</b> Male connector, M8, 3-pin, straight, A-coded</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>Description:</b> Unshielded</li> <li>• <b>Connection type head A:</b> Male connector, M8, 3-pin, angled, A-coded</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-WSK	6053170
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <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, PUR, halogen-free</li> <li>• <b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF8U13-020UA1XLEAX	2094782
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <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, PUR, halogen-free</li> <li>• <b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF8U13-050UA1XLEAX	2094788
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <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, PUR, halogen-free</li> <li>• <b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG8U13-020UA1XLEAX	2094794
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <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, PUR, halogen-free</li> <li>• <b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG8U13-050UA1XLEAX	2095586
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <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, M8, 3-pin, straight, A-coded</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 3-wire, PUR, halogen-free</li> <li>• <b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF8U13-020UA1M8U13	2096304
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <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, M8, 3-pin, straight, A-coded</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 3-wire, PUR, halogen-free</li> </ul>	YF8U13-050UA1M8U13	2096308

	Brief description	Type	part no.
	<ul style="list-style-type: none"> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Male connector, M8, 3-pin, straight, A-coded</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 3-wire, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG8U13-020UA1M8U13	2107781
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <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, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF8U13-020UA1M2A13	2096169
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <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, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF8U13-050UA1M2A13	2096170
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, 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, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG8U13-020UA1M2A13	2095748
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, 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, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG8U13-050UA1M2A13	2122842
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <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> 3 m, 3-wire, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF8U13-030UA1M2A13	2144589
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <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> 0.6 m, 3-wire, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG8U13-C60UA1XLEAX	2145889
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <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> 3 m, 3-wire, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG8U13-030UA1XLEAX	2145891
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, 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, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YI8U13-020UA1M2A13	2153825

## 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)