

IHM04-1B5PSVR8S

IMM

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
IHM04-1B5PSVR8S	1108728

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

### Detailed technical data

#### Features

<b>Housing</b>	Cylindrical smooth housing
<b>Housing</b>	Standard design
<b>Diameter</b>	Ø 4 mm
<b>Sensing range <math>S_n</math></b>	1.5 mm
<b>Safe sensing range <math>S_a</math></b>	1.215 mm
<b>Installation type</b>	Flush
<b>Switching frequency</b>	4,800 Hz
<b>Connection type</b>	Cable with connector M8, 3-pin, 0.2 m
<b>Switching output</b>	PNP
<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, IO-Link
<b>Items supplied</b>	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>
<b>Voltage drop</b>	≤ 2 V <sup>2)</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>Time delay before availability</b>	≤ 10 ms
<b>Hysteresis</b>	1 % ... 15 %
<b>Reproducibility</b>	≤ 2.5 % <sup>3)</sup>
<b>Temperature drift (of S<sub>r</sub>)</b>	≤ 10 %
<b>EMC</b>	EN 60947-5-2
<b>Continuous current I<sub>a</sub></b>	≤ 200 mA
<b>Cable material</b>	PUR
<b>Cable diameter</b>	Ø 2.9 mm
<b>Short-circuit protection</b>	✓
<b>Reverse polarity 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>	25 mm
<b>UL File No.</b>	NRKH.E348498

<sup>1)</sup> Of V<sub>S</sub>.

<sup>2)</sup> With I<sub>a</sub> = 200 mA.

<sup>3)</sup> Supply voltage U<sub>b</sub> and constant ambient temperature T<sub>a</sub>.

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,350 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	20 years

### Communication interface

<b>Communication interface</b>	IO-Link V1.1
<b>Communication Interface detail</b>	COM2 (38,4 kBaud)
<b>Cycle time</b>	10.4 ms
<b>Process data length</b>	1 Byte
<b>Process data structure</b>	Bit 0 = Sr reached Bit 1 = Sa reached

### 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. 0.78
<b>Aluminum (Al)</b>	Approx. 0.48
<b>Copper (Cu)</b>	Approx. 0.41
<b>Brass (Br)</b>	Approx. 0.54

### Installation note

<b>Remark</b>	Associated graphic see "Installation"
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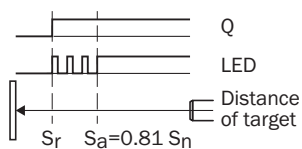
<b>B</b>	5 mm
<b>C</b>	4 mm
<b>D</b>	4.5 mm
<b>F</b>	5 mm

### Classifications

<b>eCl@ss 5.0</b>	27270101
<b>eCl@ss 5.1.4</b>	27270101
<b>eCl@ss 6.0</b>	27270101
<b>eCl@ss 6.2</b>	27270101
<b>eCl@ss 7.0</b>	27270101
<b>eCl@ss 8.0</b>	27270101
<b>eCl@ss 8.1</b>	27270101
<b>eCl@ss 9.0</b>	27270101
<b>eCl@ss 10.0</b>	27270101
<b>eCl@ss 11.0</b>	27270101
<b>eCl@ss 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

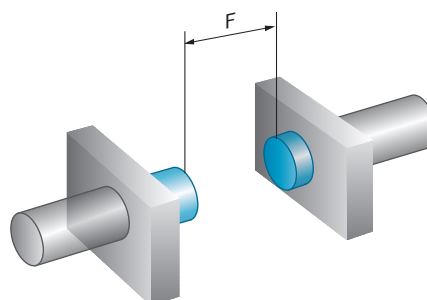
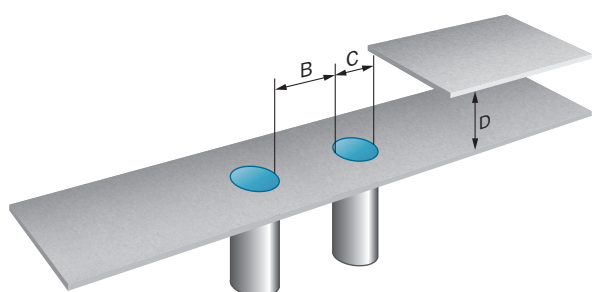
### Adjustments

Installation aid



### Installation note

Flush installation

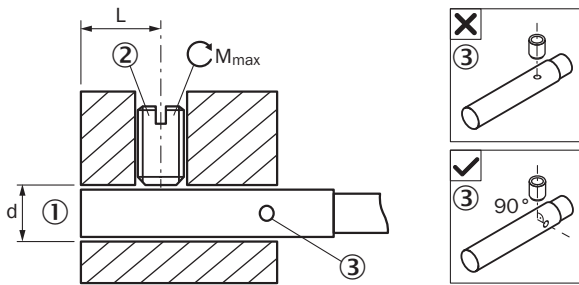


Mounting using BEF-KH-M0 bracket



Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque ( $M_{max}$ )
IHM03	BEF-KH-M03, part no. 2101064	0 mm ... 2 mm / $\geq 2$ mm	$\leq 0.4$ Nm / $\leq 0.6$ Nm
IHM04	BEF-KH-M04, part no. 2101065	0 mm ... 2 mm / $\geq 2$ mm	$\leq 0.4$ Nm / $\leq 0.6$ Nm
IMM04	BEF-KH-M04, part no. 2101065	$\geq 0$ mm	$\leq 0.6$ Nm
IMM05	BEF-KH-M05, part no. 2101066	$\geq 0$ mm	$\leq 0.6$ Nm
IHM06 flush	BEF-KH-M06, part no. 2101067	$\geq 0$ mm	$\leq 0.6$ Nm
IHM06 non-flush	BEF-KH-M06, part no. 2101067	$\geq 4$ mm	$\leq 0.6$ Nm

Fixing with setscrew

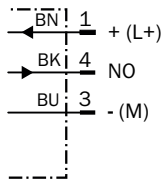


- ① Sensing face
- ② Recommended setscrew: M3, flat point
- ③ Display LED

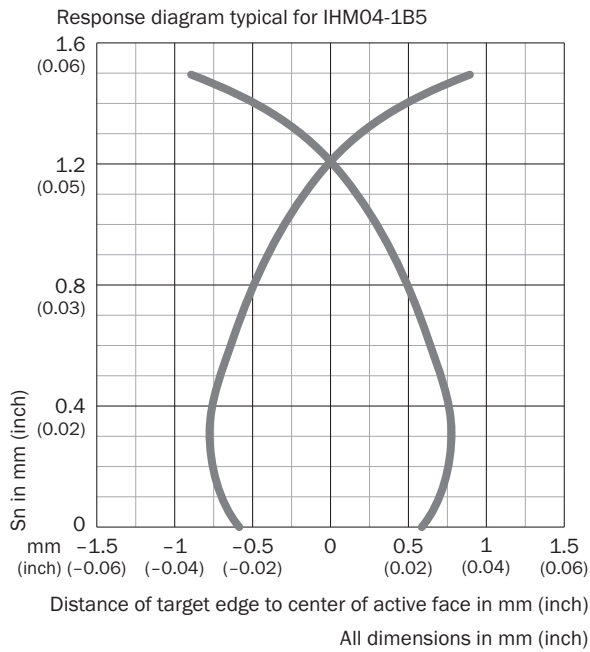
IHM04	Mounting area (L)	Max. tightening torque ( $M_{max}$ )	Diameter of mounting hole (d)
IHM04-0B8****K IHM04-1B5****K	5.5 mm ... 9.5 mm	$\leq 0.1$ Nm	$\varnothing 4$ mm ... $\varnothing 4.3$ mm
IHM04-0B8****S IHM04-1B5****S	5.5 mm ... 22.5 mm	$\leq 0.1$ Nm	$\varnothing 4$ mm ... $\varnothing 4.3$ mm
IHM04-0B8***TOS IHM04-1B5***TOS	5.5 mm ... 18.5 mm	$\leq 0.1$ Nm	$\varnothing 4$ mm ... $\varnothing 4.3$ mm
IHM04-2B5****K	8.5 mm ... 9.5 mm	$\leq 0.1$ Nm	$\varnothing 4$ mm ... $\varnothing 4.3$ mm
IHM04-2B5****S	8.5 mm ... 22.5 mm	$\leq 0.1$ Nm	$\varnothing 4$ mm ... $\varnothing 4.3$ mm
IHM04-2B5***TOS	5.5 mm ... 18.5 mm	$\leq 0.1$ Nm	$\varnothing 4$ mm ... $\varnothing 4.3$ mm

Connection diagram

Cd-002

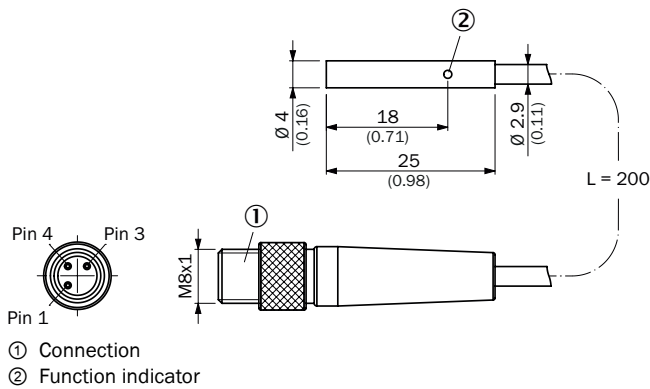


Response diagram



Dimensional drawing (Dimensions in mm (inch))



IHM04, standard variant, flush, pigtail



## Recommended accessories

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

	Brief description	Type	Part no.
<b>Distributors</b>			
	Head A: 3-pin Cable: unshielded	Y8A34A2- C2A8000XXX	2115733
	Head A: 3-pin Cable: PUR, halogen-free, unshielded, 5 m	Y8A34A2- LXXXUAA050	2115727
	Head A: 3-pin Cable: unshielded	Y8A36A2- C2A8000XXX	2115734
	Head A: 3-pin Cable: PUR, halogen-free, unshielded, 5 m	Y8A36A2- LXXXUBA050	2115728
<b>Plug connectors and cables</b>			
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF8U13- 020UA1XLEAX	2094782
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF8U13- 050UA1XLEAX	2094788
	Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YG8U13- 020UA1XLEAX	2094794
	Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YG8U13- 050UA1XLEAX	2095586
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF8U13- 020UA1M2A13	2096169
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF8U13- 020UA1M8U13	2096304
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF8U13- 050UA1M2A13	2096170
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF8U13- 050UA1M8U13	2096308
	Head A: female connector, M8, 3-pin, angled, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YG8U13- 020UA1M2A13	2095748
	Head A: female connector, M8, 3-pin, angled, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YG8U13- 020UA1M8U13	2107781
	Head A: female connector, M8, 3-pin, angled, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YG8U13- 050UA1M2A13	2122842
	Head A: male connector, M8, 3-pin, straight Cable: unshielded	STE-0803-G	6037322

	<b>Brief description</b>	<b>Type</b>	<b>Part no.</b>
	Head A: male connector, M8, 3-pin, angled Cable: unshielded	STE-0803-WSK	6053170
<b>Terminal and alignment brackets</b>			
	Plastic (PA6), without mounting hardware	BEF-KH-M04	2101065

## 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.”

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