

IMM04-01BPSVR8KS05

IMM

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
IMM04-01BPSVR8KS05	1140563

Other models and accessories → www.sick.com/IMM



Detailed technical data

Features

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

¹⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 20 % ¹⁾
Voltage drop	≤ 2 V ²⁾

¹⁾ Of V_S .

²⁾ With $I_a = 200$ mA.

³⁾ Supply voltage U_B and constant ambient temperature T_a .

Time delay before availability	≤ 10 ms
Hysteresis	1 % ... 15 %
Reproducibility	≤ 2.5 % ³⁾
Temperature drift (of S_r)	≤ 10 %
EMC	EN 60947-5-2
Continuous current I_a	≤ 100 mA
Cable material	PUR
Cable diameter	Ø 2.5 mm
Short-circuit protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	-25 °C ... +70 °C
Housing material	Stainless steel V2A, DIN 1.4305 / AISI 303
Sensing face material	Plastic, LCP
Housing length	12 mm
Thread length	10 mm
Tightening torque, max.	≤ 0.8 Nm
UL File No.	NRKH.E348498

¹⁾ Of V_S.

²⁾ With I_a = 200 mA.

³⁾ Supply voltage U_B and constant ambient temperature T_a.

Safety-related parameters

MTTF_D	1,804 years
DC_{avg}	0 %

Communication interface

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

Reduction factors

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

Installation note

Remark	Associated graphic see "Installation"
---------------	---------------------------------------

B	3 mm
C	4 mm
D	3 mm
F	8.5 mm

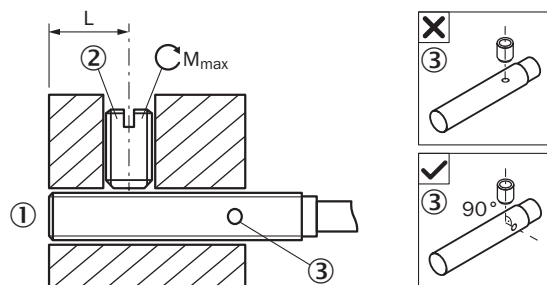
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
IO-Link	✓

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

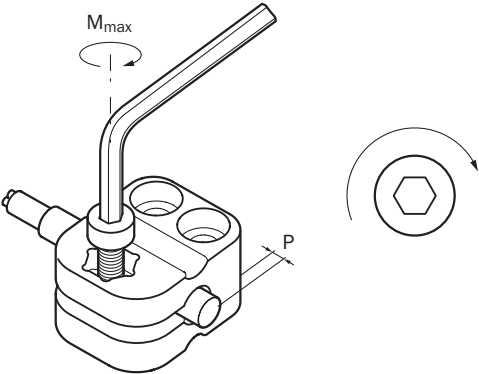
Installation note Fixing with setscrew



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

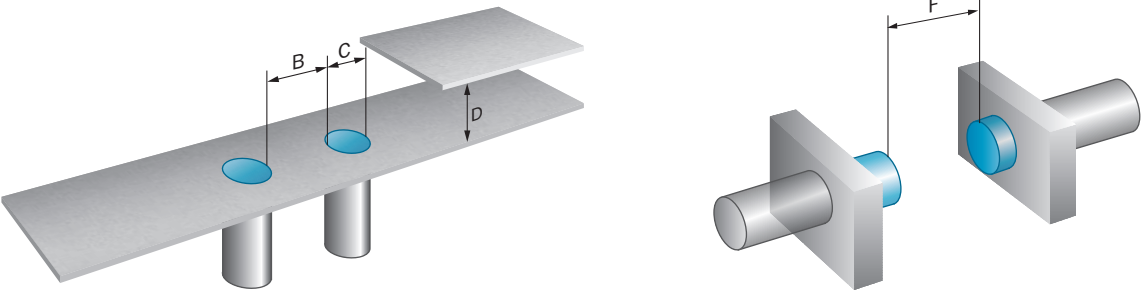
Sensor type	Mounting area (L)	Max. tightening torque (M_{\max})
IMM04-01B****K	5.5 mm ... 9 mm	$\leq 0.2 \text{ Nm}$
IMM04-0B6****SIMM04-01B****S	5.5 mm ... 19 mm	$\leq 0.2 \text{ Nm}$

Installation note Mounting using BEF-KH-M04 bracket

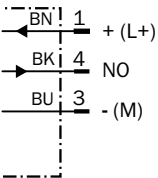


Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque (M_{\max})
IMM04-0B6****IM-M04-01B****	BEF-KH-M04, part no. 2101065	$\geq 0 \text{ mm}$	$\leq 0.6 \text{ Nm}$

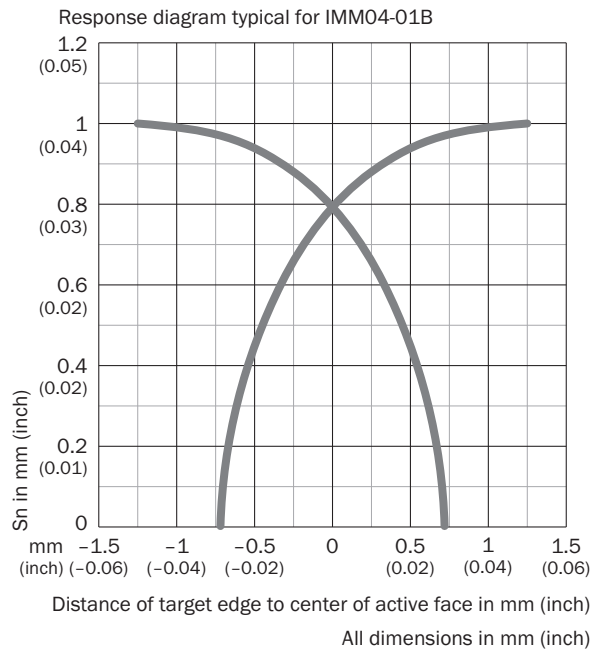
Installation note Flush installation



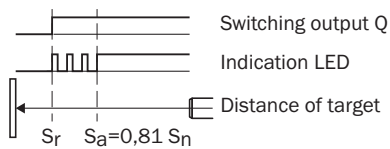
Connection diagram Cd-002



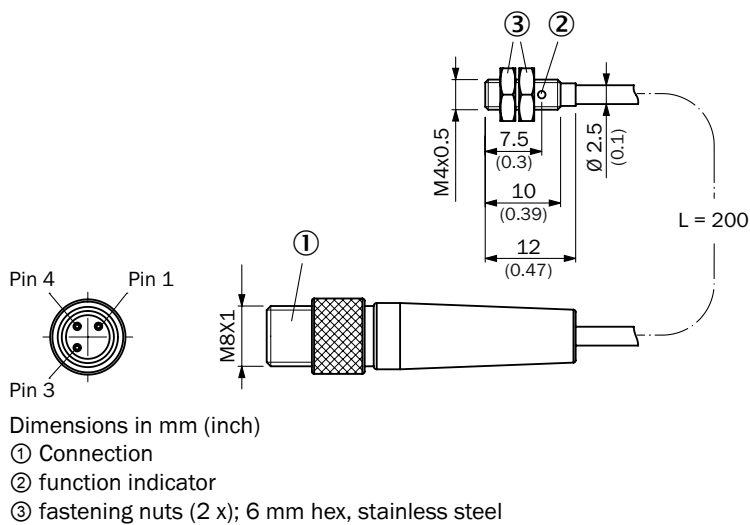
Response diagram



Functional principle Installation aid




Dimensional drawing IMM04, short variant, flush, pigtail



Recommended accessories

Other models and accessories → www.sick.com/IMM

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none">• Material: Plastic• Details: Plastic (PA6)• Items supplied: Without mounting hardware• Usable for: Round sensors with 4 mm housing diameter without fixed stop	BEF-KH-M04	2101065

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: 3-pin • Number of slots: 4 • Slot connection type: M8, 3-pin, A-coded, female connector • Items supplied: 5 x labeling plates • Description: Unshielded 	Y8A34A2-C2A8000XXX	2115733
	<ul style="list-style-type: none"> • Connection type head A: 3-pin • Number of slots: 4 • Slot connection type: M8, 3-pin, A-coded, female connector • Items supplied: 5 x labeling plates • Cable: 5 m, 6-wire, PUR, halogen-free • Description: Unshielded • Application: Drag chain operation 	Y8A34A2-LXXXUAA050	2115727
	<ul style="list-style-type: none"> • Connection type head A: 3-pin • Number of slots: 6 • Slot connection type: M8, 3-pin, A-coded, female connector • Items supplied: 5 x labeling plates • Description: Unshielded 	Y8A36A2-C2A8000XXX	2115734
	<ul style="list-style-type: none"> • Connection type head A: 3-pin • Number of slots: 6 • Slot connection type: M8, 3-pin, A-coded, female connector • Items supplied: 5 x labeling plates • Cable: 5 m, 8-wire, PUR, halogen-free • Description: Unshielded • Application: Drag chain operation 	Y8A36A2-LXXXUBA050	2115728
	<ul style="list-style-type: none"> • Connection type head A: Male connector, M8, 3-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0803-G	6037322
	<ul style="list-style-type: none"> • Connection type head A: Male connector, M8, 3-pin, angled, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0803-WSK	6053170
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 3-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-020UA1XLEAX	2094782
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 3-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-050UA1XLEAX	2094788
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 3-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG8U13-020UA1XLEAX	2094794
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 3-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG8U13-050UA1XLEAX	2095586
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, straight, A-coded • Connection type head B: Male connector, M8, 3-pin, straight, A-coded • Signal type: Sensor/actuator cable • Cable: 2 m, 3-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-020UA1M8U13	2096304
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, straight, A-coded • Connection type head B: Male connector, M8, 3-pin, straight, A-coded • Signal type: Sensor/actuator cable 	YF8U13-050UA1M8U13	2096308

	Brief description	Type	part no.
	<ul style="list-style-type: none"> Cable: 5 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG8U13-020UA1M8U13	2107781
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Male connector, M8, 3-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 		
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Male connector, M12, 3-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 		
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Male connector, M12, 3-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 		
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Male connector, M12, 3-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-020UA1M2A13	2096169
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Male connector, M12, 3-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-050UA1M2A13	2096170
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Male connector, M12, 3-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG8U13-020UA1M2A13	2095748
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Male connector, M12, 3-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG8U13-050UA1M2A13	2122842
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Male connector, M12, 3-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 3 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-030UA1M2A13	2144589
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG8U13-C60UA1XLEAX	2145889
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG8U13-030UA1XLEAX	2145891

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