IHM03-01BPSVR8S

IMM

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

IHM03-01BPSVR8S | IMM

INDUCTIVE PROXIMITY SENSORS

Ordering information

Type	part no.
IHM03-01BPSVR8S	1108737

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

Detailed technical data

Features

Housing	Cylindrical
Housing	Standard design
Diameter	Ø 3 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
Items supplied	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]
Time delay before availability	≤ 10 ms
Hysteresis	1 % ... 15 %
Reproducibility	≤ 2.5 % [3]

[1] Of V_S.
[2] With Ia = 200 mA.
[3] Supply voltage U_B and constant ambient temperature Ta.

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	22 mm
UL File No.	NRKH.E348498

[1] Of V_S.

[2] With Ia = 200 mA.

[3] Supply voltage U_B and constant ambient temperature Ta.

Safety-related parameters

$MTTF_D$	1,638 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. 0.81
Aluminum (Al)	Approx. 0.57
Copper (Cu)	Approx. 0.43
Brass (Br)	Approx. 0.61

Installation note

Remark	Associated graphic see "Installation"
B	3 mm
C	3 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
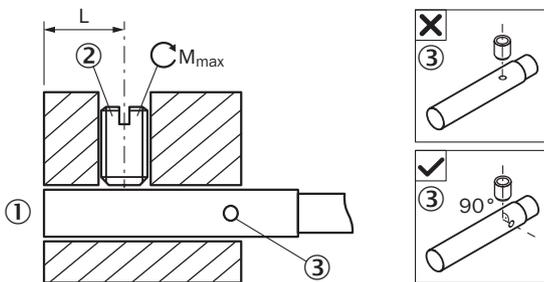
① Sensing face
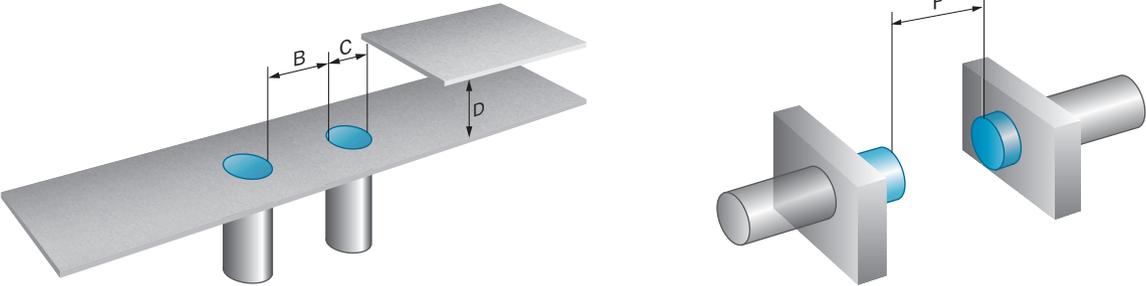② Recommended setscrew: M3, flat point
③ Display LED

Sensor type	Mounting area (L)	Max. tightening torque (M_{max})
IHM03-01B*****K	5.5 mm … 9 mm	≤ 0.2 Nm
IHM03-0B6*****S IHM03-01B*****S	5.5 mm … 19 mm	≤ 0.2 Nm

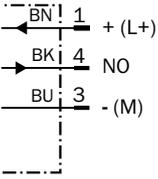## Installation note Mounting using BEF-KH-M03 bracket
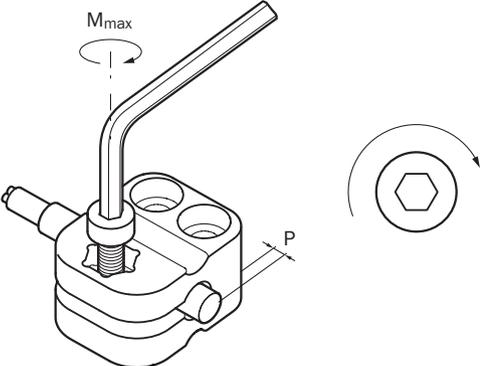
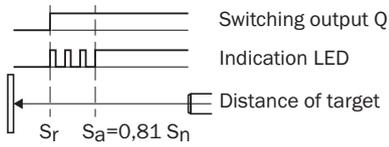| Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque (M$_{max}$)
IHM03-0B6****** IHM03-01B******	BEF-KH-M03, part no. 2101064	0 mm ... 2 mm / ≥ 2 mm	≤ 0.4 Nm / ≤ 0.6 Nm

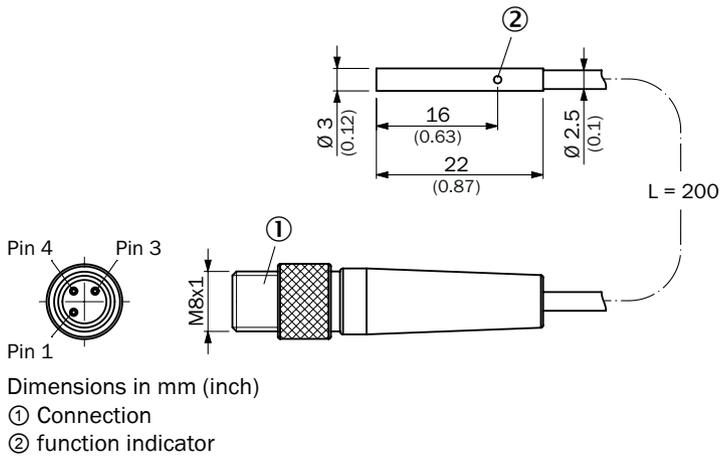## Installation note Flush installation

Connection diagram Cd-002

Response diagram

Response diagram typical for IHM03-01B

Sn in mm (inch)

Distance of target edge to center of active face in mm (inch)

All dimensions in mm (inch)
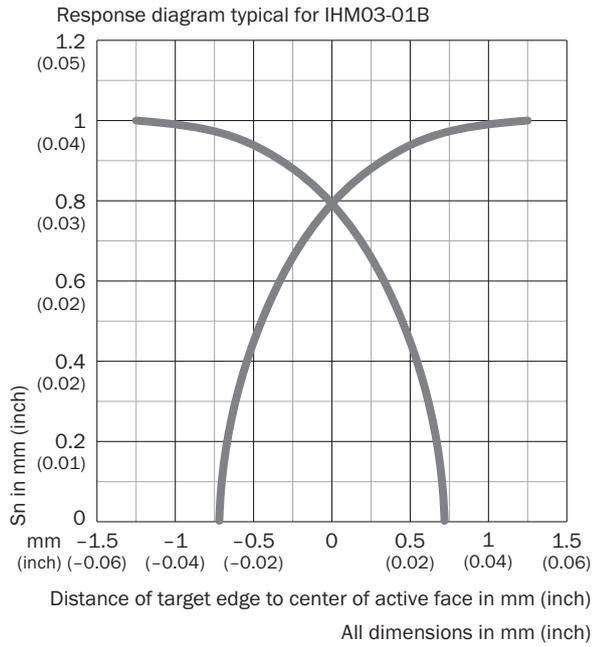
Functional principle Installation aid

Switching output Q

Indication LED

Distance of target

S_r $S_a = 0{,}81\ S_n$

Dimensional drawing IHM03, standard variant, flush, pigtail

②

Ø 3 (0.12)

16 (0.63)

22 (0.87)

Ø 2.5 (0.1)

L = 200

Pin 4   Pin 3

Pin 1

M8x1

①

Dimensions in mm (inch)
① Connection
② function indicator

Recommended accessories

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

Brief description		Type	part no.
Mounting systems			
	• **Material:** Plastic • **Details:** Plastic (PA6) • **Items supplied:** Without mounting hardware • **Usable for:** Round sensors with 3 mm housing diameter without fixed stop	BEF-KH-M03	2101064

	Brief description	Type	part no.
connectors and cables			
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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:** 5 m, 3-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U13-050UA1M8U13	2096308
	• **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	YG8U13-020UA1M8U13	2107781

	Brief description	Type	part no.
	• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation		
	• **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	YF8U13-020UA1M2A13	2096169
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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

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