Data sheet

IMC08-02BPPVC0SA70

IMC

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
IMC08-02BPPVC0SA70	1079281

Included in delivery: BEF-MU-M08N (1)

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

Detailed technical data

Features

Housing	Metric
Thread size	M8 x 1
Diameter	Ø 8 mm
Sensing range S_n	0 mm ... 2 mm [1]
Safe sensing range S_a	1.62 mm
Number of switching points	Up to 4 adjustable switching points or windows
Switching modes	Single point, Window mode, Two point mode, Visual adjustment indicator
Switching frequency Qint.1 / Qint.2 on Pin2	1,000 Hz
Installation type	Flush
Connection type	Male connector M12, 4-pin [2]
Switching output	PNP
Switching output detail	PNP
Output Q/C	Switching output or IO-Link mode
Output MFC	Switching output or input
Output function	NC / NO
Output characteristic	Programmable
Electrical wiring	DC 4-wire
Enclosure rating	IP68 [3] IP69K [4]
Special features	Smart Task, Resistant against coolant lubricants, IO-Link

[1] Adjustable.
[2] With gold plated contact pins.
[3] According to EN 60529.
[4] According to ISO 20653:2013-03.

Special applications	Zones with coolants and lubricants, Difficult application conditions
Special characteristic	Resistant against coolant lubricants
Pin 2 configuration	External input, Teach-in, switching signal
Items supplied	Mounting nut, V2A stainless steel, with locking teeth (2x)

[1] Adjustable.
[2] With gold plated contact pins.
[3] According to EN 60529.
[4] According to ISO 20653:2013-03.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	≤ 10 %
Voltage drop	≤ 2 V [2]
Hysteresis	Programmable [3]
Reproducibility	≤ 5 % [4] [5]
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2
Continuous current I_a	≤ 200 mA [6]
Short-circuit protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	100 g / 2 ms / 500 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz / 1 mm; 55 Hz ... 500 Hz / 60 g
Ambient operating temperature	–40 °C ... +75 °C
Housing material	Stainless steel V2A, DIN 1.4305 / AISI 303
Sensing face material	Plastic, LCP
Housing length	60 mm
Thread length	32 mm
Tightening torque, max.	Typ. 14 Nm [7]
UL File No.	E181493
Teach-in accuracy	+/- 3% of Sr
Resolution, typical (range)	5 µm (0 mm ... 0.5 mm) 20 µm (0.5 mm ... 1.5 mm) 50 µm (1.5 mm ... 2 mm)
Resolution, maximum (area)	10 µm (0 mm ... 0.5 mm) 40 µm (0.5 mm ... 1.5 mm) 50 µm (1.5 mm ... 2 mm)

[1] IO-Link mode: 18 VDC ... 30 VDC.
[2] At I_a max.
[3] To comply with EN 60947-5-2, a hysteresis of approx. 10% must be set.
[4] Supply voltage U_B and constant ambient temperature Ta.
[5] Of Sr.
[6] 200 mA total for both switching outputs.
[7] Valid if toothed side of nut is used.

Safety-related parameters

$MTTF_D$	688 years
DC_{avg}	0 %
T_M (mission time)	20 years

Communication interface

Communication interface	IO-Link V1.1
Communication Interface detail	COM2 (38,4 kBaud)
Cycle time	5 ms
Process data length	32 Bit
Process data structure	Bit 0 = switching signal Q_{L1} Bit 1 = switching signal Q_{L2} Bit 2 = switching signal Q_{Int3} Bit 3 = switching signal Q_{Int4} Bit 18 ... 31 = time value
Factory setting	Switching Point 1: reference value 1 Output: normally open Pin 2 configuration: input

Reference values

Note	Reference value in Digits for switching point in mm stored in the sensor
Reference value 1	2 mm
Reference value 2	1.5 mm
Reference value 3	1 mm
Reference value 4	0.5 mm

Reduction factors

Stainless steel (V2A, 304)	Approx. 0.7
Aluminum (Al)	Approx. 0.4
Copper (Cu)	Approx. 0.3
Brass (Br)	Approx. 0.4

Installation note

Remark	Associated graphic see "Installation"
B	6.5 mm
C	8 mm
D	6 mm
F	16 mm

Smart Task

Smart Task name	Time measurement + debouncing
Logic function	Window Direct
Timer function	Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot)

[1] SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

[2] IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

Inverter	Adjustable
Time measurement accuracy	SIO Logic: (-1,2 ... 0) x time base ± 1 % of time measurement value [1] IOL: (-1,2 ... 0) x time base ± 1 % of time measurement value [2]
Time measurement accuracy (e.g. accuracy for time measurement value = 1 s)	Time base 1 ms: –11,2 ms ... 10 ms
Resolution time measuring value	1 ms
Debounce time max.	SIO Logic: 30 s [1] IOL: 30 s [2]
Switching signal	
Switching signal Q_{L1}	Output type (dependant on the adjusted threshold)
Switching signal Q_{L2}	Output type (dependant on the adjusted threshold)
Measuring value	Time measurement value

[1] SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.
[2] IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

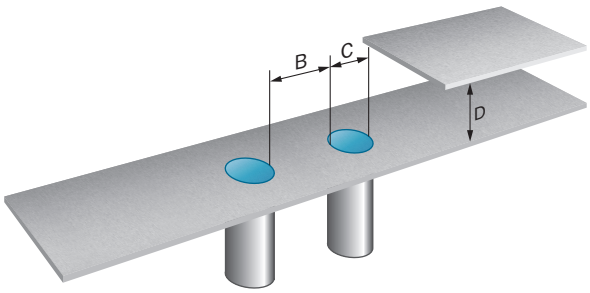
Certificates

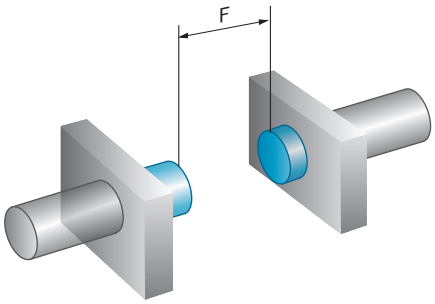
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
IO-Link	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

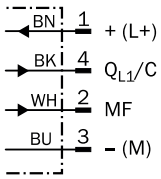
ECLASS 5.0	27270101
ECLASS 5.1.4	27270101
ECLASS 6.0	27270101
ECLASS 6.2	27270101
ECLASS 7.0	27270101
ECLASS 8.0	27270101
ECLASS 8.1	27270101
ECLASS 9.0	27270101
ECLASS 10.0	27270101
ECLASS 11.0	27270101
ECLASS 12.0	27274001
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
ETIM 8.0	EC002714
UNSPSC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

Installation note Flush installation





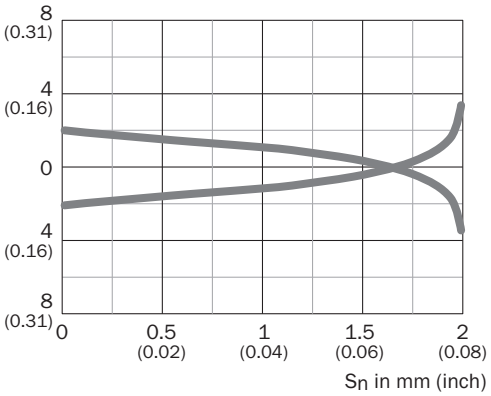
Connection diagram Cd-526



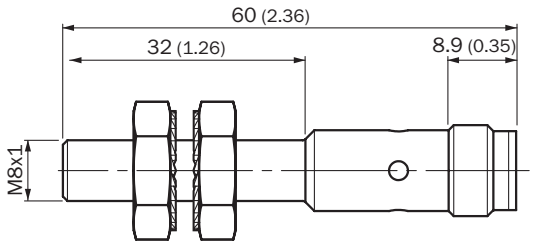
Q_{L1}/C = Switching output, IO-Link communication
MF = Multifunction

Response diagram

Distance in mm (inch)



Dimensional drawing IMC08 Standard, connector, M12, flush



Dimensions in mm (inch)

Recommended accessories

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

	Brief description	Type	part no.
network devices			
		IOLA2US-01101 (SiLink2 Master)	1061790
Mounting systems			
	• **Description:** Mounting bracket for M8 sensors • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware	BEF-WN-M08	5321721
	• **Description:** Mounting plate for M8 sensors • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware	BEF-WG-M08	5321722

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, M12, 4-pin, straight • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PP • **Description:** Sensor/actuator cable, unshielded • **Connection systems:** Flying leads • **Note:** This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • **Application:** Hygienic and washdown zones, Drag chain operation	DOL-1204-G02MRN	6058291
	• **Connection type head A:** Female connector, M12, 4-pin, straight • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PP • **Description:** Sensor/actuator cable, unshielded • **Connection systems:** Flying leads • **Note:** This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • **Application:** Hygienic and washdown zones, Drag chain operation	DOL-1204-G05MRN	6058476
	• **Connection type head A:** Female connector, M12, 4-pin, angled • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PP • **Description:** Sensor/actuator cable, unshielded • **Connection systems:** Flying leads • **Note:** This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • **Application:** Hygienic and washdown zones, Drag chain operation	DOL-1204-W02MRN	6058474
	• **Connection type head A:** Female connector, M12, 4-pin, angled • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PP • **Description:** Sensor/actuator cable, unshielded • **Connection systems:** Flying leads • **Note:** This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • **Application:** Hygienic and washdown zones, Drag chain operation	DOL-1204-W05MRN	6058477
	• **Connection type head A:** Female connector, M12, 4-pin, angled • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PP • **Description:** Sensor/actuator cable, unshielded • **Connection systems:** Flying leads • **Note:** This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2), only suitable for PNP sensors • **Application:** Hygienic and washdown zones, Drag chain operation	DOL-1204-L02MRN	6058482
	• **Connection type head A:** Female connector, M12, 4-pin, angled • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PP • **Description:** Sensor/actuator cable, unshielded • **Connection systems:** Flying leads • **Note:** This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2), only suitable for PNP sensors • **Application:** Hygienic and washdown zones, Drag chain operation	DOL-1204-L05MRN	6058483
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded	YF2A14-050UB3XLEAX	2095608

	Brief description	Type	part no.
	• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation		
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235

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

SICK
Sensor Intelligence.