



IMC12-04BPPVC0SB02

IMC

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
IMC12-04BPPVC0SB02	1097434

Included in delivery: BEF-MU-M12N (1)

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

Illustration may differ



Detailed technical data

Features

Housing	Metric
Thread size	M12 x 1
Diameter	Ø 12 mm
Sensing range S_n	0 mm ... 4 mm ¹⁾
Safe sensing range S_a	3.24 mm
Switching modes	Single point
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	NO
Electrical wiring	DC 4-wire
Enclosure rating	IP68 ³⁾ IP69K ⁴⁾
Special features	IO-Link
Special characteristic	For teach-in: reduction of the digital switching point by 30 digits
Pin 2 configuration	Teach-in

¹⁾ Adjustable, with fixed offset.

²⁾ With gold plated contact pins.

³⁾ According to EN 60529.

⁴⁾ According to ISO 20653:2013-03.

Items supplied	Mounting nut, V2A stainless steel, with locking teeth (2x)
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- 1) Adjustable, with fixed offset.
 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	1% of taught-in digital value
Reproducibility	≤ 5 % ³⁾ 4)
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2
Continuous current I_a	≤ 200 mA ⁵⁾
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	65 mm
Thread length	48 mm
Tightening torque, max.	Typ. 32 Nm ⁶⁾
UL File No.	E181493
Teach-in accuracy	+/- 3% of Sr
Resolution, typical (range)	10 µm (0 mm ... 1 mm) 20 µm (1 mm ... 3 mm) 40 µm (3 mm ... 4 mm)
Resolution, maximum (area)	20 µm (0 mm ... 1 mm) 40 µm (1 mm ... 3 mm) 75 µm (3 mm ... 4 mm)

- 1) IO-Link mode: 18 VDC ... 30 VDC.
 2) At I_a max.
 3) Supply voltage U_B and constant ambient temperature Ta.
 4) Of S_r.
 5) 200 mA total for both switching outputs.
 6) Valid if toothed side of nut is used.

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 16 ... 31 = distance value
Factory setting	Switching Point 1: reference value 1 Output: normally open

Reference values

Note	Reference value in Digits for switching point in mm stored in the sensor
Reference value 1	4 mm
Reference value 2	3 mm
Reference value 3	2 mm
Reference value 4	1 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	12 mm
C	12 mm
D	12 mm
F	32 mm

Certificates

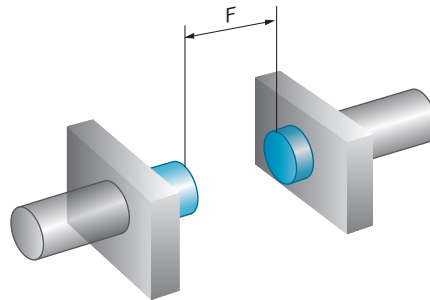
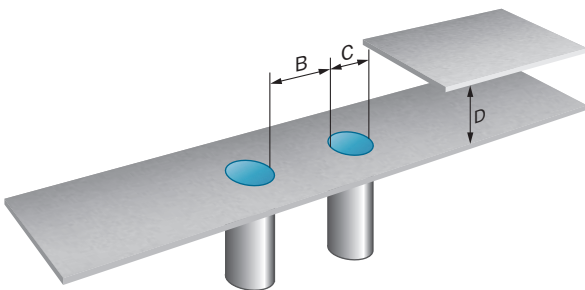
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
IO-Link	✓

Classifications

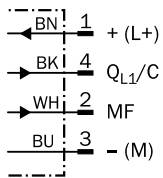
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ECLASS 5.1.4	27270101
ECLASS 6.0	27270101
ECLASS 6.2	27270101
ECLASS 7.0	27270101
ECLASS 8.0	27270101
ECLASS 8.1	27270101
ECLASS 9.0	27270101
ECLASS 10.0	27270101
ECLASS 11.0	27270101

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

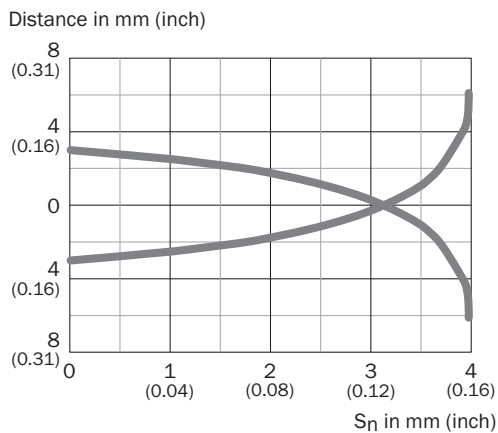


Connection diagram Cd-526

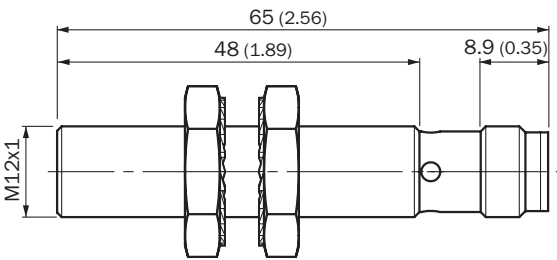


Q_{L1}/C = Switching output,
IO-Link communication
MF = Multifunction

Response diagram







Dimensional drawing IMC12 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			
		IO LA2US-01101 (SiLink2 Master)	1061790
Mounting systems			
	<ul style="list-style-type: none">• Description: Mounting plate for M12 sensors• Material: Stainless steel• Details: Stainless steel• Items supplied: Without mounting hardware	BEF-WG-M12N	5320950
	<ul style="list-style-type: none">• Description: Mounting bracket for M12 housing• Material: Stainless steel• Details: Stainless steel• Items supplied: Without mounting hardware	BEF-WN-M12N	5320949
	<ul style="list-style-type: none">• Description: Plate N05N for universal clamp bracket, M12• Material: Stainless steel, stainless steel• Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)• Items supplied: Universal clamp (5322627), mounting hardware• Usable for: IMA, IMF, M12 round sensors, UC4, V12-2, MultiV, MultiLine, W4-3, MultiV, MultiLine	BEF-KHS-N05N	2051621

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight • Connection type head B: Male connector, M12, 4-pin, straight • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded 	DSL-1204-G02MRN	6058499

	Brief description	Type	part no.
	<ul style="list-style-type: none"> 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 	DSL-1204-G05MRN	6058500
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled Connection type head B: Male connector, M12, 4-pin, straight Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PP Description: Sensor/actuator cable, unshielded 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 	DSL-1204-B02MRN	6058502
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled Connection type head B: Male connector, M12, 4-pin, straight Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PP Description: Sensor/actuator cable, unshielded 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 	DSL-1204-B05MRN	6058503
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight Connection type head B: Male connector, M12, 4-pin, straight Signal type: Sensor/actuator cable Cable: 20 m, 4-wire, PP Description: Sensor/actuator cable, unshielded 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 	YF2AP4-020PA2M2AP4	2143765

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.

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