



IMC30-15BPPVC0SA70

IMC

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
IMC30-15BPPVC0SA70	1079299

Included in delivery: BEF-MU-M30N (1)

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

Detailed technical data

Features

Housing	Metric
Thread size	M30 x 1.5
Diameter	Ø 30 mm
Sensing range S_n	0 mm ... 15 mm ¹⁾
Safe sensing range S_a	12.15 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	200 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	70 mm
Thread length	52 mm
Tightening torque, max.	Typ. 100 Nm ⁷⁾
UL File No.	E181493
Teach-in accuracy	+/- 3% of S _r
Resolution, typical (range)	25 µm (0 mm ... 6 mm) 75 µm (6 mm ... 10 mm) 300 µm (10 mm ... 15 mm)
Resolution, maximum (area)	50 µm (0 mm ... 6 mm) 150 µm (6 mm ... 10 mm) 500 µm (10 mm ... 15 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 T_a.
5) Of S_r.
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	14 mm
Reference value 2	10 mm
Reference value 3	6 mm
Reference value 4	2 mm

Reduction factors

Stainless steel (V2A, 304)	Approx. 0.6
Aluminum (Al)	Approx. 0.2
Copper (Cu)	Approx. 0.2
Brass (Br)	Approx. 0.2

Installation note

Remark	Associated graphic see "Installation"
B	40 mm
C	30 mm
D	45 mm
F	120 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: $(-1,2 \dots 0) \times \text{time base} \pm 1 \% \text{ of time measurement value } ^{1)}$ IOL: $(-1,2 \dots 0) \times \text{time base} \pm 1 \% \text{ of time measurement value } ^{2)}$
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	3 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.

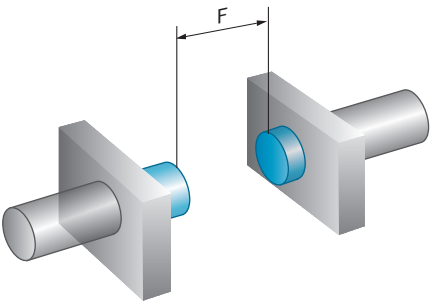
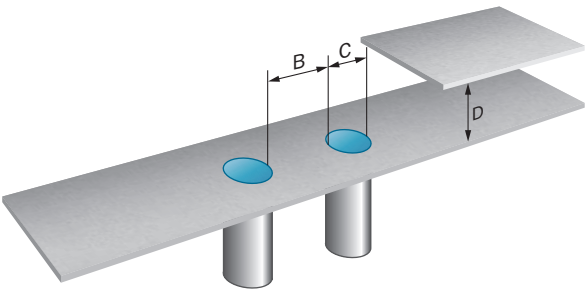
Certificates

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

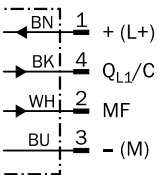
Classifications

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

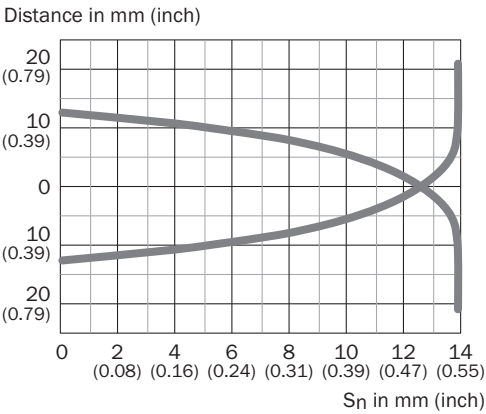


Connection diagram Cd-526

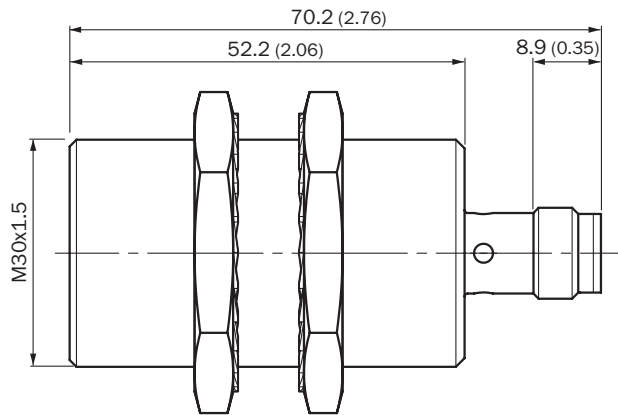


Q_{L1}/C = Switching output,
IO-Link communication
MF = Multifunction

Response diagram



Dimensional drawing IMC30 Standard, connector, M12, flush



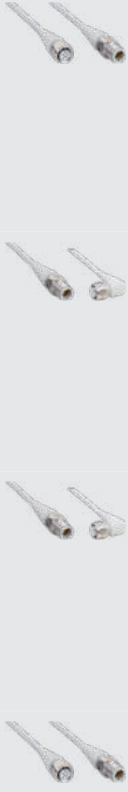
Dimensions in mm (inch)

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 M30 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware	BEF-WN-M30	5308445
	Description: Mounting plate for M30 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware	BEF-WG-M30	5321871
	Description: Plate N10 for universal clamp bracket, M30 Material: Steel, zinc diecast Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket) Items supplied: Universal clamp (5322626), mounting hardware Usable for: M30 round sensors	BEF-KHS-N10	2062372

	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 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.
	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
	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: 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
	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: 2 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
	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	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.

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