



IQC12-04BPPKQ8SA00

IMC

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
IQC12-04BPPKQ8SA00	1083796

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

Detailed technical data

Features

Housing	Rectangular
Dimensions (W x H x D)	12 mm x 40 mm x 26 mm
Sensing range S_n	0 mm ... 4 mm ¹⁾
Safe sensing range S_a	3.24 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	Cable with M12 male connector, 4-pin, 0.2 m 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⁾

¹⁾ Adjustable.

²⁾ With gold plated contact pins.

³⁾ According to EN 60529.

Special features	Smart Task
Pin 2 configuration	External input, Teach-in, switching signal

¹⁾ Adjustable.

²⁾ With gold plated contact pins.

³⁾ According to EN 60529.

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⁾
No load current	35 mA
Cable material	PUR
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 ... +75 °C
Housing material	Plastic, VISTAL®
Sensing face material	Plastic, VISTAL®
Tightening torque, max.	< 1 Nm
Teach-in accuracy	+/- 3% of S _r
Resolution, typical (range)	20 µm (0 mm ... 4 mm)
Resolution, maximum (area)	40 µm (0 mm ... 4 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.

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 16 ... 31 = distance 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	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"
A	0 mm
B	12 mm
C	12 mm
D	12 mm
E	0 mm
F	32 mm
G	0 mm

Smart Task

Smart Task name	Base logics
Logic function	AND OR XOR Hysteresis
Timer function	Switch-on delay Off delay ON and OFF delay Impulse (one shot)
Inverter	Adjustable
Switching frequency	SIO Direct: 1000 Hz ¹⁾ SIO Logic: 1000 Hz ²⁾ IOL: 1000 Hz ³⁾

¹⁾ SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to "direct"/"deactivated").

²⁾ SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

³⁾ IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

Switching signal	
Switching signal Q _{L1}	Switching output
Switching signal Q _{L2}	Switching output

¹⁾ SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to "direct"/"deactivated").

²⁾ SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

³⁾ IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

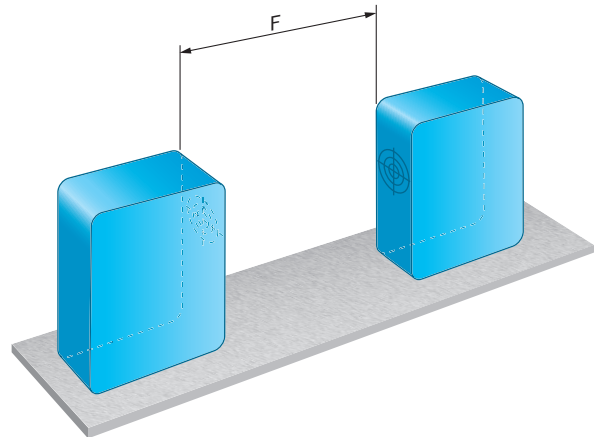
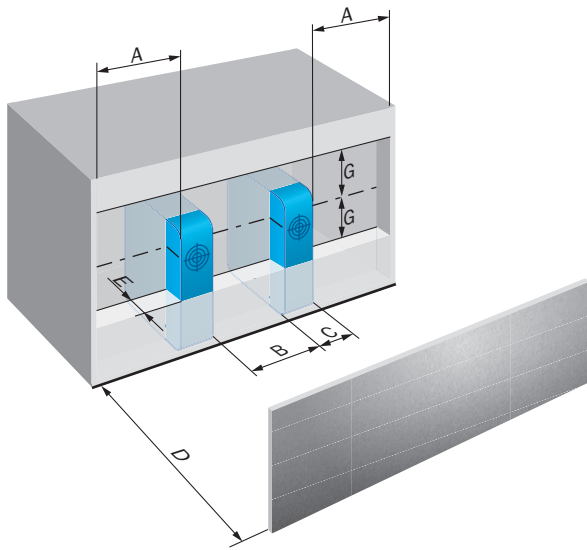
Certificates

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

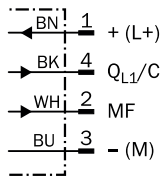
Classifications

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

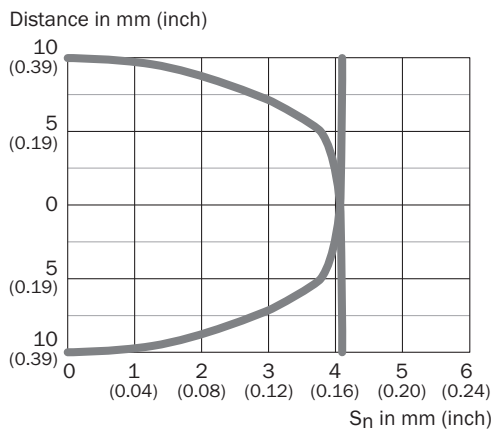


Connection diagram Cd-526

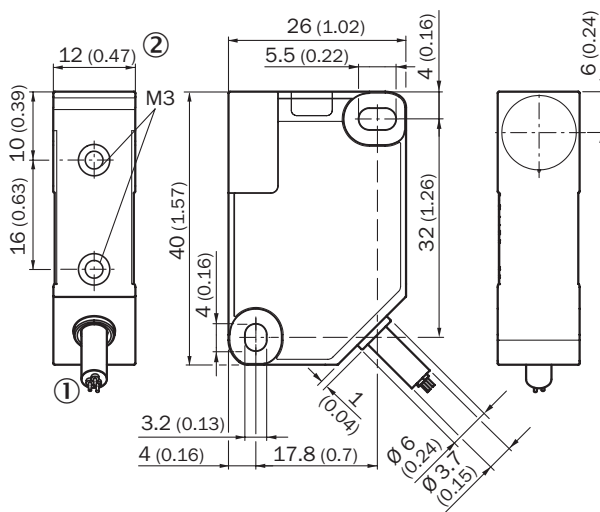


Q_{L1}/C = Switching output,
IO-Link communication
MF = Multifunction

Response diagram



Dimensional drawing IQ12, cable



Dimensions in mm (inch)

① Connection

② LED indicator 270°

Recommended accessories

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

	Brief description	Type	part no.
network devices			
		IOLA2US-01101 (SiLink2 Master)	1061790

	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, Robot, cold bending resistant, seawater resistant	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, Robot, cold bending resistant, seawater resistant	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, Robot, cold bending resistant, seawater resistant	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, Robot, cold bending resistant, seawater resistant	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, Robot, cold bending resistant, seawater resistant	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	DOL-1204-L05MRN	6058483

	Brief description	Type	part no.
	Application: Hygienic and washdown zones, Drag chain operation, Robot, cold bending resistant, seawater resistant		
	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 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, Robot, cold bending resistant, seawater resistant	DSL-1204-G02MRN	6058499
	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, Robot, cold bending resistant, seawater resistant	DSL-1204-G05MRN	6058500
	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, Robot, cold bending resistant, seawater resistant	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: 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, Robot, cold bending resistant, seawater resistant	DSL-1204-B05MRN	6058503
	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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608
	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, Robot, cold bending resistant, seawater resistant	YF2AP4-020PA2M2AP4	2143765
	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: Uncontaminated zones, Zones with chemicals	YF2A14-050VB3XLEAX	2096235
	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	YG2AP4-030PA2M2AP4	2151191

	Brief description	Type	part no.
	• Cable: 3 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		

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