PRODUCT INFORMATION

IMC

FOUR TIMES THE SWITCHING CAPABILITY WITH INDUCTIVE INTELLIGENCE

Inductive proximity sensors

SICK
Sensor Intelligence.

SMART AND VERSATILE

The time has come for a new generation of inductive proximity sensors: High-performance and smart components which are versatile and offer intelligent solutions for a multitude of challenges. The IMC proximity sensors from SICK bring intelligence into machine processes across all industries without restricting reliability. With their intelligence and flexibility, their advanced diagnostics options, and the capacity to solve detected problems directly in the sensor, the IMC sensors set the bar extremely high within their field.

8020166/2016-12-08
Subject to change without notice

OUTSTANDING PRODUCT FEATURES FOR ADVANCED APPLICATION POSSIBILITIES

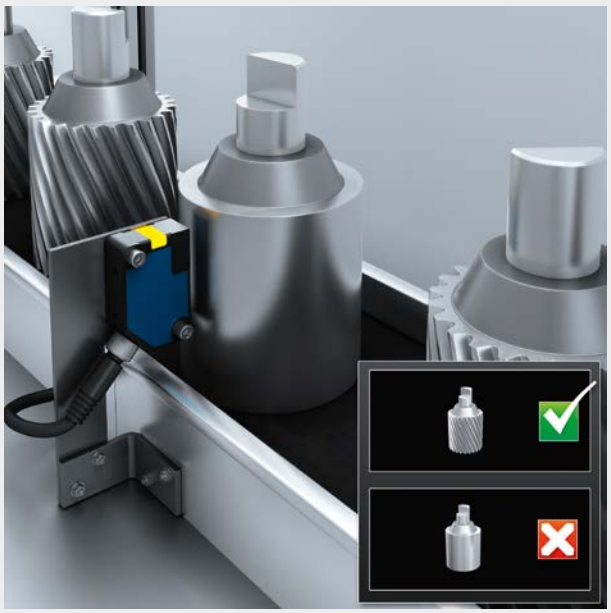
The smart IMC inductive proximity sensors are packed full of outstanding features. They expand the application possibilities of inductive proximity sensors tremendously due to their intelligent functionality and intelligent information processing and supply.

Free configuration of up to four switching points or windows

The IMC outputs two freely programmable switching points or switching windows via the two available switching end stages. With the IO-Link interface, this number can even increase to up to four individual switching points or windows including hysteresis within the complete nominal sensing range of the sensors.

Benefits for you

- Cost saving due to reduced number of variants – an IMC sensor can replace up to four standard sensors
- Increased information density due to diagnostics functionality. For example, an output can be switched if an object is too close to the sensor or if it is too far away.



Error checking during gear production

Unmachined workpieces are occasionally found on the conveyor belt during gear production. The IMC is able to use a simple switching window function to reliably detect the faulty objects, since correctly machined parts produce a different analog signal.

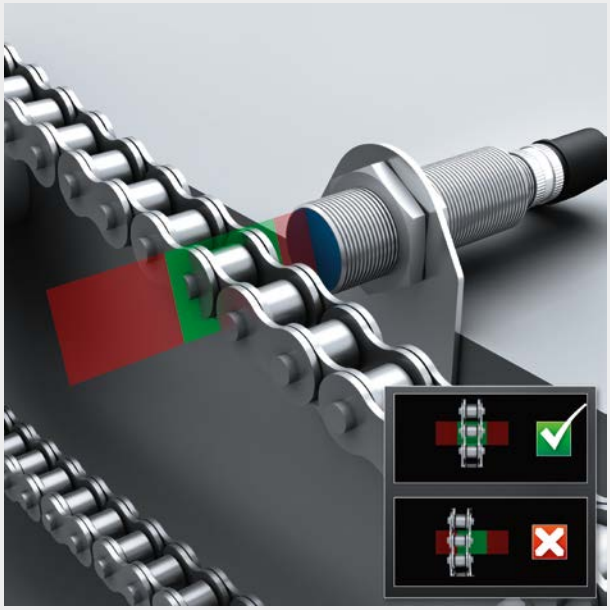
The advantage of the IMC: Direct data evaluation in the device reduces the load in the control. In the event of format changes, new testing windows can be easily taught in via IO-Link, which drastically reduces changeover times.

Complete diagnostic capabilities

The internal analog signal of the IMC enables both the continuous monitoring of processes as well as sensor self-diagnosis. In conjunction with the four configurable switching windows or switching points, the sensor sends alarm signals to the higher-level control. Changes are thus detected in good time – before they cause costly faults and downtimes. Furthermore, the IMC sensor has an integrated temperature monitor. It constantly indicates the temperature of the motors involved in the machine process etc. and thus prevents damage caused by overheating at an early stage.

Benefit for you

- Improved machine availability as a result of reduced down-times due to the early detection of maintenance tasks and repairs which may be necessary



Wear and tear checking on conveyor chains

Conveyor chains often begin to run unsteadily due to increasing wear. The IMC detects unwanted jitters via its switching window function and sends a warning before the conveyor chain can cause damage to the machine parts or the sensor.

The advantage of IMC: Prevention of damage to machines and production goods.

Flexible configuration of the switching outputs

Both outputs of the IMC proximity sensors can be freely configured via an IO-Link interface. The IMC is always highly flexible, regardless of whether a normally open contact, normally closed contact, two normally open contacts, two normally closed contacts, or a complementary output function is to be implemented in the sensor.

Benefit for you

- Reduced storage costs as fewer sensors or sensor variants are required

No unwanted signals thanks to the switch-on and switch-off delay

Every switching output on the IMC inductive proximity sensor can be equipped with a switch-on and switch-off delay of 1 ms to 30 s. Furthermore, a single impulse can be individually configured for a length of between 1 ms and 30 s.

Benefit for you

- High process stability as the sensor suppresses erroneous switching signals caused by unfavorable ambient conditions such as metal chips

8020166/2016-12-08

The integrated automation function simplifies complex tasks

With the logic function of the IMC proximity sensor, the sensor's own switching signal can be linked with a binary switching signal from any external sensor via pin 2 in the form of an AND, OR, or xOR logic gate.

Additional automation functions available on the sensor such as time measurement or the counting function process data directly in the sensor and only return the information that the process actually needs. Furthermore, customer-specific solutions contribute significantly to the facilitation and simplification of processes and applications.

Benefits for you

- Reduced project planning and cabling work as complex tasks are easy to implement directly in the process
- Reduced costs as expensive analog and counter cards and costly automation components are not needed
- No load on the communication channels caused by unnecessary data

Examination of the crown cap seal on a bottle

The IMC first uses an integrated photoelectric sensor to detect if a bottle is present. It then checks if there is a seal on the bottle. Only both signals together show that the bottle is correctly sealed with a crown cap.

The advantage of IMC: An evaluation in the control is not necessary as it takes place directly in the sensor. The sensor simply transmits a signal to the control.

Convenient switching point teach-in

Whenever a precise sensor switching position is required, this usually necessitates a laborious fine adjustment of the mounting position. However, not with the IMC: The object is simply moved within the switching range in front of the sensor and the corresponding position is taught in via IO-Link or via the sensor input through an applied high signal.

Benefits for you

- Huge time savings during installation and any sensor replacement which may be required
- High flexibility as the sensing range can be adjusted individually based on the application requirements

Future-proof due to IO-Link 1.1

IO-Link 1.1 enables state-of-the-art data storage. Sensor-specific settings are automatically loaded onto a new sensor in the event of a sensor replacement without needing reconfiguration. As well as extensive system experience in this field, SICK offers a comprehensive IO-Link-compatible sensor portfolio including IO-Link master, memory stick, and accessories.

Benefit for you

- High production efficiency thanks to simple sensor integration and quick sensor replacement during maintenance

INDUCTIVE SENSORS WITH LOGIC FUNCTIONS

Product description

The inductive, intelligent, and, thanks to IO-Link 1.1, communication-enabled IMC proximity sensors offer a whole host of new options to make handling applications easier and more reliable in every industry. Up to four individual switching points or windows including the hysteresis can be set. Equipped with two freely programmable switching end stages, an IMC can therefore replace several conventional devices. Adjustable switch-on and switch-off delays help to reliably suppress unwanted switching pulses in harsh environments. The additional on-board logic function enables complex tasks to be completed with ease directly in the sensor.

At a glance

- Types: M8 to M30; IQ10 and IQ12
- Four programmable switching points or windows at an Sn of up to 20 mm
- Freely programmable output function
- Enclosure rating: IP 68, IP 69K
- Temperature range: –40 °C to +75 °C
- Rugged stainless-steel or VISTAL housing
- Logic function
- IO-Link 1.1

Your benefits

- Advanced diagnostic options ensure stable processes
- Programmable switching thresholds and windows make predictive maintenance easier and reduce machine downtimes
- Switching point teaching enables precise object positioning without the need for time-consuming adjustment
- Reduced costs as fewer sensors or sensor variants are required
- Stable signals thanks to integrated debounce function
- Reduced project planning and cabling work as complex tasks are easy to implement directly in the process
- Future-proof thanks to IO-Link 1.1 communication

Additional information

→ www.sick.com/IMC

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

8020166/2016-12-08
Subject to change without notice

Detailed technical data

Features

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Housing	Cylindrical thread design				Rectangular	
Thread size	M8 x 1	M12 x 1	M18 x 1	M30 x 1.5	–	
Dimensions (W x H x D)	–				10 mm x 28 mm x 16 mm	12 mm x 40 mm x 26 mm
Sensing range S_n (adjustable)						
Flush	0 ... 2 mm	0 ... 4 mm	0 ... 8 mm	0 ... 15 mm	0 ... 3 mm	0 ... 4 mm
Non-flush	0 ... 4 mm	0 ... 8 mm	0 ... 12 mm	0 ... 20 mm	–	–
Safe sensing range S_a	S_n x 0,81					
Number of switching points	Up to 4 adjustable switching points or windows					
Switching modes	Single point, Window mode, Two point mode, Optical adjustment indicator					
Installation type	Flush / non-flush (depending on type)				Flush	
Connection type [1]	Male connector M12, 4-pin				Cable with M12 male connector, 4-pin, 0.2 m, PVC	
Output type	PNP					
Output Q/C	Switching output or IO-Link mode					
Output MFC	Switching output or input					
Output function	NC / NO / complementary programmable					
Electrical wiring	DC 4-wire					
Enclosure rating	IP 68 [2], IP 69K [3]				IP 68 [2]	
Special features	Resistant against coolant lubricants				–	
Diagnosis	Chip temperature					
Pin 2 configuration	External input, Teach-in, switching signal					

[1] With gold plated contact pins.

[2] According to EN 60529.

[3] According to ISO 20653:2013-03.

Smart Task

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Smart Task	Logic function					
Logic function	AND, OR, XOR, Hysteresis					
Timer function	On delay, Off delay, ON and OFF delay, Impulse (one shot)					
Inverter	Adjustable					
Switching frequency	1000 Hz [1] [2] [3]		250 Hz [1] [2] [3]	200 Hz [1] [2] [3]	1000 Hz [1] [2] [3]	
Switching signal Q_{L1} / 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.

Fieldbus, industrial network

Fieldbus integration	IO-Link V1.1
Type of fieldbus integration	Integrated in the device
Mode	COM 2 (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

Mechanics/electronics

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Supply voltage [1]	10 V DC ... 30 V DC					
Ripple	≤ 10 %					
Voltage drop [2]	≤ 2 V					
Current consumption [3]	≤ 35 mA					
Hysteresis [4]	Programmable					
Repeatability [5] [6]	≤ 5 %					
Temperature drift (of S_r)	± 10 %					
EMC	According to EN 60947-5-2					
Continuous current I_a [7]	≤ 200 mA					
Short-circuit protection	✔					
Reverse polarity protection	✔					
Power-up pulse protection	✔					
Shock and vibration resistance	100 g / 11 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz / 1 mm; 55 Hz ... 500 Hz / 60 g				30 g, 11 ms / 10 ... 55 Hz, 1 mm	
Ambient operating temperature	–40 °C ... +75 °C				–25 °C ... +75 °C	
Housing material	Stainless steel, V2A (1.4305)				Plastic, VISTAL®	
Sensing face material	Plastic, LCP				Plastic, VISTAL®	
Tightening torque, max. [8]	Typ. 14 Nm	Typ. 32 Nm	Typ. 90 Nm	Typ. 100 Nm	< 1 Nm	
Teach-in accuracy	+/- 3% of Sr					
Distance value-resolution (Detail see page 26)	5 µm ... 50 µm	10 µm ... 100 µm	25 µm ... 150 µm	25 µm ... 150 µm	20 µm	20 µm

[1] IO-Link mode: 18 VDC ... 30 VDC.
[2] At I_a max.
[3] Without load.
[4] For compliance with EN 60947-5-2, a hysteresis of about 10% must be set.
[5] Ub and Ta constant.
[6] Of Sr.
[7] 200 mA total for both switching outputs.
[8] Valid if toothed side of nut is used.

Reference values

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
	Reference value in Digits for switching point in mm stored in the sensor					
Reference value 1						
Flush	2 mm	4 mm	7 mm	14 mm	3 mm	4 mm
Non-flush	4 mm	8 mm	12 mm	20 mm	–	–
Reference value 2						
Flush	1.5 mm	3 mm	5 mm	10 mm	2 mm	3 mm
Non-flush	3 mm	6 mm	10 mm	15 mm	–	–
Reference value 3						
Flush	1 mm	2 mm	3 mm	6 mm	1 mm	2 mm
Non-flush	2 mm	4 mm	8 mm	10 mm	–	–

8020166/2016-12-08
Subject to change without notice

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Reference value 4						
Flush	0.5 mm	1 mm	1 mm	2 mm	0.5 mm	1 mm
Non-flush	1 mm	2 mm	5 mm	5 mm	–	–

Reduction factors

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Stainless steel (V2A, 304)						
Flush	Approx. 0.7	Approx. 0.7	Approx. 0.6	Approx. 0.6	Approx. 0.7	Approx. 0.7
Non-flush	Approx. 0.7	Approx. 0.7	Approx. 0.7	Approx. 0.8	–	–
Aluminum (Al)						
Flush	Approx. 0.4	Approx. 0.4	Approx. 0.3	Approx. 0.2	Approx. 0.4	Approx. 0.4
Non-flush	Approx. 0.4	Approx. 0.4	Approx. 0.4	Approx. 0.4	–	–
Copper (Cu)						
Flush	Approx. 0.3	Approx. 0.3	Approx. 0.2	Approx. 0.2	Approx. 0.3	Approx. 0.3
Non-flush	Approx. 0.3	Approx. 0.4	Approx. 0.4	Approx. 0.2	–	–
Brass (Br)						
Flush	Approx. 0.4	Approx. 0.4	Approx. 0.2	Approx. 0.2	Approx. 0.5	Approx. 0.4
Non-flush	Approx. 0.4	Approx. 0.4	Approx. 0.4	Approx. 0.4	–	–

Ordering information

Other models ➜ www.sick.com/IMC

- **Smart Task:** logic function

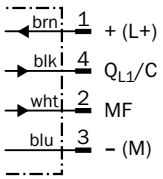
Dimensions	Installation type	Sensing range S_n [1]	Connection [2]	Type	Part no.
M8 x 1	Flush	0 mm ... 2 mm	Male connector, M12, 4-pin	IMC08-02BPPVC0SA00	1079280
	Non-flush	0 mm ... 4 mm	Male connector, M12, 4-pin	IMC08-04NPPVC0SA00	1079283
M12 x 1	Flush	0 mm ... 4 mm	Male connector, M12, 4-pin	IMC12-04BPPVC0SA00	1079286
	Non-flush	0 mm ... 8 mm	Male connector, M12, 4-pin	IMC12-08NPPVC0SA00	1079289
M18 x 1	Flush	0 mm ... 8 mm	Male connector, M12, 4-pin	IMC18-08BPPVC0SA00	1079292
	Non-flush	0 mm ... 12 mm	Male connector, M12, 4-pin	IMC18-12NPPVC0SA00	1079295
M30 x 1.5	Flush	0 mm ... 15 mm	Male connector, M12, 4-pin	IMC30-15BPPVC0SA00	1079298
	Non-flush	0 mm ... 20 mm	Male connector, M12, 4-pin	IMC30-20NPPVC0SA00	1079301
10 mm x 28 mm x 16 mm	Flush	0 mm ... 3 mm	Cable with male connector, M12, 4-pin, 0.2 m	IQC10-03BPPKQ8SA00	1083793
12 mm x 40 mm x 26 mm	Flush	0 mm ... 4 mm		IQC12-04BPPKQ8SA00	1083796

[1] Adjustable.

[2] With gold plated contact pins.

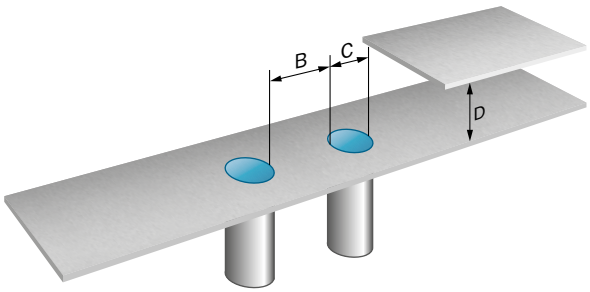
Connection diagram

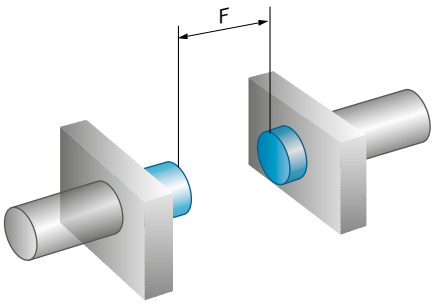
Cd-367



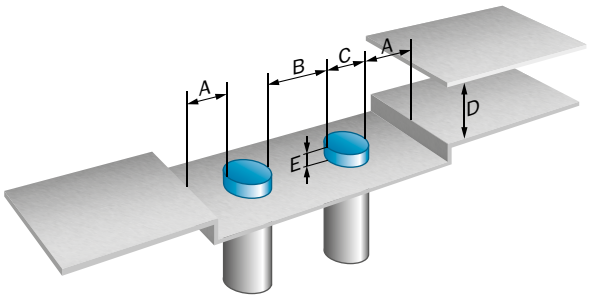
Installation note

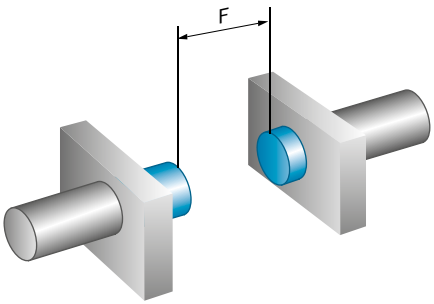
Flush installation

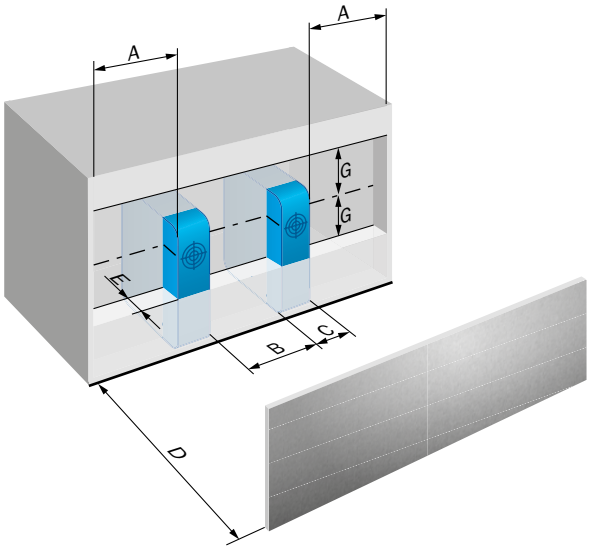


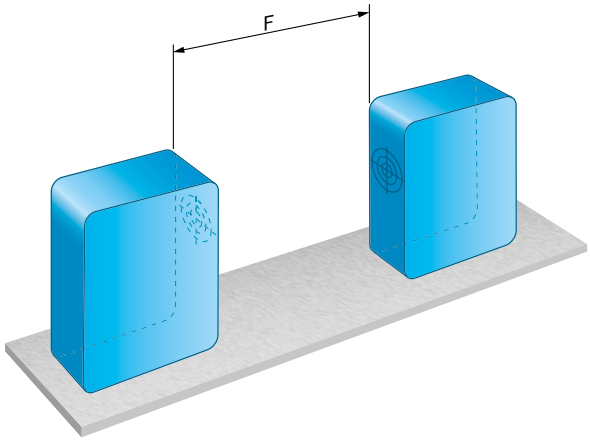


Non-flush installation









	Installation	Sensing range Sn	A	B	C	D	E	F	G
IMC08-02Bxxxxxx	Flush	2 mm	-	6.5 mm	8 mm	6 mm	-	16 mm	-
IMC08-04Nxxxxxx	Non-flush	4 mm	8 mm	18 mm	8 mm	12 mm	8 mm	32 mm	-
IMC12-04Bxxxxxx	Flush	4 mm	-	12 mm	12 mm	12 mm	-	32 mm	-
IMC12-08Nxxxxxx	Non-flush	8 mm	12 mm	24 mm	12 mm	24 mm	16 mm	64 mm	-
IMC18-08Bxxxxxx	Quasi-flush	8 mm	9 mm	18 mm	18 mm	24 mm	2 mm	64 mm	-
IMC18-12Nxxxxxx	Non-flush	12 mm	18 mm	36 mm	18 mm	36 mm	12 mm	96 mm	-
IMC30-15Bxxxxxx	Flush	15 mm	-	40 mm	30 mm	45 mm	-	120 mm	-
IMC30-20Nxxxxxx	Non-flush	20 mm	20 mm	62 mm	30 mm	60 mm	20 mm	160 mm	-
IQC10-03Bxxxxxx	Flush	3 mm	0 mm	10 mm	10.3 mm	9 mm	0 mm	24 mm	0 mm
IQC12-04Bxxxxxx	Flush	4 mm	0 mm	12 mm	12 mm	12 mm	0 mm	32 mm	0 mm

8020166/2016-12-08
Subject to change without notice

INDUCTIVE SENSORS WITH TIME MEASUREMENT FUNCTIONS

Product description

The inductive, intelligent, and, thanks to IO-Link 1.1, communication-enabled IMC proximity sensors offer a whole host of new options to make handling applications easier and more reliable in every industry. Up to four individual switching points or windows including the hysteresis can be set. Equipped with two freely programmable switching end stages, an IMC can therefore replace several conventional devices. Adjustable switch-on and switch-off delays help to reliably suppress unwanted switching pulses in harsh environments. The additional on-board functions, such as time measurement and debouncing enable complex tasks to be completed with ease directly in the sensor.

At a glance

- Types: M8 to M30; IQ10 and IQ12
- Four programmable switching points or windows at an Sn of up to 20 mm
- Freely programmable output function
- Enclosure rating: IP 68, IP 69K
- Temperature range: –40 °C to +75 °C
- Rugged stainless-steel or VISTAL housing
- Time measurement
- IO-Link 1.1

Your benefits

- Advanced diagnostic options ensure stable processes
- Programmable switching thresholds and windows make predictive maintenance easier and reduce machine downtimes
- Switching point teaching enables precise object positioning without the need for time-consuming adjustment
- Reduced costs as fewer sensors or sensor variants are required
- Stable signals thanks to integrated debounce function
- Reduced project planning and cabling work as complex tasks are easy to implement directly in the process
- Future-proof thanks to IO-Link 1.1 communication

Additional information

→ www.sick.com/IMC

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

8020166/2016-12-08
Subject to change without notice

Detailed technical data

Features

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Housing	Cylindrical thread design				Rectangular	
Thread size	M8 x 1	M12 x 1	M18 x 1	M30 x 1.5	–	
Dimensions (W x H x D)	–				10 mm x 28 mm x 16 mm	12 mm x 40 mm x 26 mm
Sensing range S_n (adjustable)						
Flush	0 ... 2 mm	0 ... 4 mm	0 ... 8 mm	0 ... 15 mm	0 ... 3 mm	0 ... 4 mm
Non-flush	0 ... 4 mm	0 ... 8 mm	0 ... 12 mm	0 ... 20 mm	–	–
Safe sensing range S_a	S_n x 0,81					
Number of switching points	Up to 4 adjustable switching points or windows					
Switching modes	Single point, Window mode, Two point mode, Optical adjustment indicator					
Installation type	Flush / non-flush (depending on type)				Flush	
Connection type [1]	Male connector M12, 4-pin				Cable with M12 male connector, 4-pin, 0.2 m, PVC	
Output type	PNP					
Output Q/C	Switching output or IO-Link mode					
Output MFC	Switching output or input					
Output function	NC / NO programmable					
Electrical wiring	DC 4-wire					
Enclosure rating	IP 68 [2], IP 69K [3]				IP 68 [2]	
Special features	Resistant against coolant lubricants				–	
Diagnosis	Chip temperature					
Pin 2 configuration	External input, Teach-in, switching signal					

[1] With gold plated contact pins.

[2] According to EN 60529.

[3] According to ISO 20653:2013-03.

Smart Task

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Smart Task	Time measurement, debouncing					
Logic function	Window, Direct					
Timer function	Deactivated, On delay, Off delay, ON and OFF delay, Impulse (one shot)					
Inverter	Adjustable					
Switching frequency	1000 Hz [1] [2] [3]		250 Hz [1] [2] [3]	200 Hz [1] [2] [3]	1000 Hz [1] [2] [3]	
Time measurement accuracy	SIO Logic: (-1,2 ... 0) x time base ± 1 % of time measurement value [2] IOL: (-1,2 ... 0) x time base ± 1 % of time measurement value [3]					
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		2 ms	3 ms	1 ms	
Min. Time between two process events (switches) [2] [3]	0.5 ms [2] [3]		2 ms [2] [3]	2.5 ms [2] [3]	0.5 ms [2] [3]	
Debounce time max.	30 s [2] [3]					
Switching signal Q_{L1} / Q_{L2}	Output type (dependant on the adjusted threshold)					
Measuring value	Time measurement value					

[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.

Fieldbus, industrial network

Fieldbus integration	IO-Link V1.1
Type of fieldbus integration	Integrated in the device
Mode	COM 2 (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

Mechanics/electronics

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Supply voltage [1]	10 V DC ... 30 V DC					
Ripple	≤ 10 %					
Voltage drop [2]	≤ 2 V					
Current consumption [3]	≤ 35 mA					
Hysteresis [4]	Programmable					
Repeatability [5] [6]	≤ 5 %					
Temperature drift (of S_r)	± 10 %					
EMC	According to EN 60947-5-2					
Continuous current I_a [7]	≤ 200 mA					
Short-circuit protection	✔					
Reverse polarity protection	✔					
Power-up pulse protection	✔					
Shock and vibration resistance	100 g / 11 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz / 1 mm; 55 Hz ... 500 Hz / 60 g				30 g, 11 ms / 10 ... 55 Hz, 1 mm	
Ambient operating temperature	–40 °C ... +75 °C				–25 °C ... +75 °C	
Housing material	Stainless steel, V2A (1.4305)				Plastic, VISTAL®	
Sensing face material	Plastic, LCP				Plastic, VISTAL®	
Tightening torque, max. [8]	Typ. 14 Nm	Typ. 32 Nm	Typ. 90 Nm	Typ. 100 Nm	< 1 Nm	
Teach-in accuracy	+/- 3% of Sr					
Distance value-resolution (Detail see page 26)	5 µm ... 50 µm	10 µm ... 100 µm	25 µm ... 150 µm	25 µm ... 150 µm	20 µm	20 µm

[1] IO-Link mode: 18 VDC ... 30 VDC.
[2] At I_a max.
[3] Without load.
[4] For compliance with EN 60947-5-2, a hysteresis of about 10% must be set.
[5] Ub and Ta constant.
[6] Of Sr.
[7] 200 mA total for both switching outputs.
[8] Valid if toothed side of nut is used.

Reference values

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
	Reference value in Digits for switching point in mm stored in the sensor					
Reference value 1						
Flush	2 mm	4 mm	7 mm	14 mm	3 mm	4 mm
Non-flush	4 mm	8 mm	12 mm	20 mm	–	–

8020166/2016-12-08
Subject to change without notice

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Reference value 2						
Flush	1.5 mm	3 mm	5 mm	10 mm	2 mm	3 mm
Non-flush	3 mm	6 mm	10 mm	15 mm	–	–
Reference value 3						
Flush	1 mm	2 mm	3 mm	6 mm	1 mm	2 mm
Non-flush	2 mm	4 mm	8 mm	10 mm	–	–
Reference value 4						
Flush	0.5 mm	1 mm	1 mm	2 mm	0.5 mm	1 mm
Non-flush	1 mm	2 mm	5 mm	5 mm	–	–

Reduction factors

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Stainless steel (V2A, 304)						
Flush	Approx. 0.7	Approx. 0.7	Approx. 0.6	Approx. 0.6	Approx. 0.7	Approx. 0.7
Non-flush	Approx. 0.7	Approx. 0.7	Approx. 0.7	Approx. 0.8	–	–
Aluminum (Al)						
Flush	Approx. 0.4	Approx. 0.4	Approx. 0.3	Approx. 0.2	Approx. 0.4	Approx. 0.4
Non-flush	Approx. 0.4	Approx. 0.4	Approx. 0.4	Approx. 0.4	–	–
Copper (Cu)						
Flush	Approx. 0.3	Approx. 0.3	Approx. 0.2	Approx. 0.2	Approx. 0.3	Approx. 0.3
Non-flush	Approx. 0.3	Approx. 0.4	Approx. 0.4	Approx. 0.2	–	–
Brass (Br)						
Flush	Approx. 0.4	Approx. 0.4	Approx. 0.2	Approx. 0.2	Approx. 0.5	Approx. 0.4
Non-flush	Approx. 0.4	Approx. 0.4	Approx. 0.4	Approx. 0.4	–	–

Ordering information

Other models ➜ www.sick.com/IMC

- **Smart Task:** Time measurement, debouncing

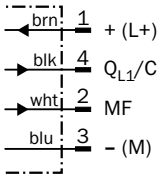
Dimensions	Installation type	Sensing range S_n [1]	Connection [2]	Type	Part no.
M8 x 1	Flush	0 mm ... 2 mm	Male connector, M12, 4-pin	IMC08-02BPPVC0SA70	1079281
	Non-flush	0 mm ... 4 mm	Male connector, M12, 4-pin	IMC08-04NPPVC0SA70	1079284
M12 x 1	Flush	0 mm ... 4 mm	Male connector, M12, 4-pin	IMC12-04BPPVC0SA70	1079287
	Non-flush	0 mm ... 8 mm	Male connector, M12, 4-pin	IMC12-08NPPVC0SA70	1079290
M18 x 1	Flush	0 mm ... 8 mm	Male connector, M12, 4-pin	IMC18-08BPPVC0SA70	1079293
	Non-flush	0 mm ... 12 mm	Male connector, M12, 4-pin	IMC18-12NPPVC0SA70	1079296
M30 x 1.5	Flush	0 mm ... 15 mm	Male connector, M12, 4-pin	IMC30-15BPPVC0SA70	1079299
	Non-flush	0 mm ... 20 mm	Male connector, M12, 4-pin	IMC30-20NPPVC0SA70	1079302
10 mm x 28 mm x 16 mm	Flush	0 mm ... 3 mm	Cable with male connector, M12, 4-pin, 0.2 m	IQC10-03BPPKQ8SA70	1083794
12 mm x 40 mm x 26 mm	Flush	0 mm ... 4 mm		IQC12-04BPPKQ8SA70	1083797

[1] Adjustable.

[2] With gold plated contact pins.

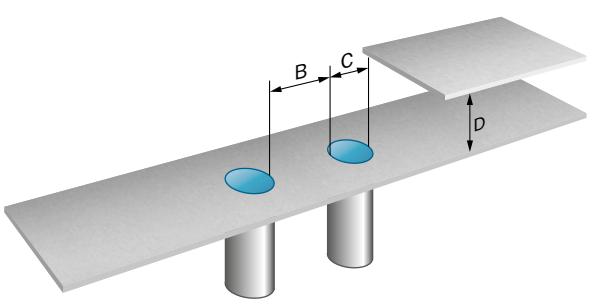
Connection diagram

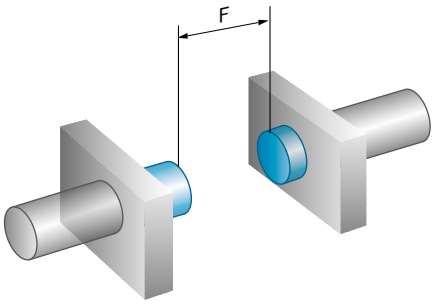
Cd-367



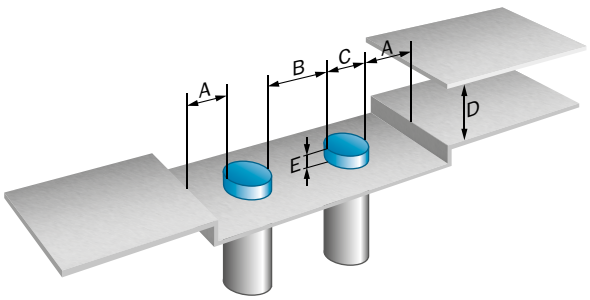
Installation note

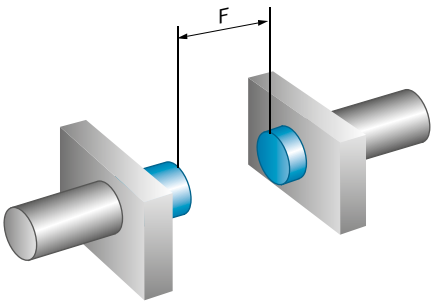
Flush installation

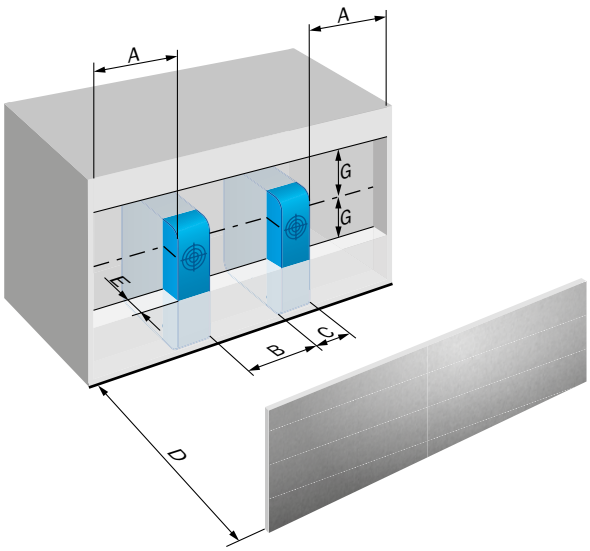


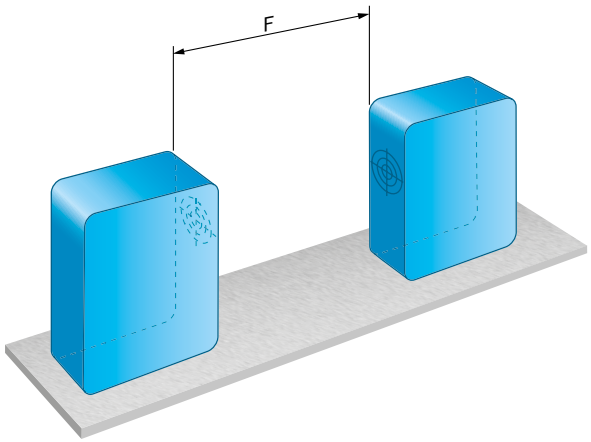


Non-flush installation









	Installation	Sensing range Sn	A	B	C	D	E	F	G
IMC08-02Bxxxxxx	Flush	2 mm	-	6.5 mm	8 mm	6 mm	-	16 mm	-
IMC08-04Nxxxxxx	Non-flush	4 mm	8 mm	18 mm	8 mm	12 mm	8 mm	32 mm	-

8020166/2016-12-08
Subject to change without notice

	Installation	Sensing range Sn	A	B	C	D	E	F	G
IMC12-04Bxxxxxx	Flush	4 mm	-	12 mm	12 mm	12 mm	-	32 mm	-
IMC12-08Nxxxxxx	Non-flush	8 mm	12 mm	24 mm	12 mm	24 mm	16 mm	64 mm	-
IMC18-08Bxxxxxx	Quasi-flush	8 mm	9 mm	18 mm	18 mm	24 mm	2 mm	64 mm	-
IMC18-12Nxxxxxx	Non-flush	12 mm	18 mm	36 mm	18 mm	36 mm	12 mm	96 mm	-
IMC30-15Bxxxxxx	Flush	15 mm	-	40 mm	30 mm	45 mm	-	120 mm	-
IMC30-20Nxxxxxx	Non-flush	20 mm	20 mm	62 mm	30 mm	60 mm	20 mm	160 mm	-
IQC10-03Bxxxxxx	Flush	3 mm	0 mm	10 mm	10.3 mm	9 mm	0 mm	24 mm	0 mm
IQC12-04Bxxxxxx	Flush	4 mm	0 mm	12 mm	12 mm	12 mm	0 mm	32 mm	0 mm

INDUCTIVE SENSORS WITH COUNTER FUNCTIONS

Product description

The inductive, intelligent, and, thanks to IO-Link 1.1, communication-enabled IMC proximity sensors offer a whole host of new options to make handling applications easier and more reliable in every industry. Up to four individual switching points or windows including the hysteresis can be set. Equipped with two freely programmable switching end stages, an IMC can therefore replace several conventional devices. Adjustable switch-on and switch-off delays help to reliably suppress unwanted switching pulses in harsh environments. The additional on-board counter function enables complex tasks to be completed with ease directly in the sensor.

At a glance

- Types: M8 to M30; IQ10 and IQ12
- Four programmable switching points or windows at an Sn of up to 20 mm
- Freely programmable output function
- Enclosure rating: IP 68, IP 69K
- Temperature range: –40 °C to +75 °C
- Rugged stainless-steel or VISTAL housing
- Counter function
- IO-Link 1.1

Your benefits

- Advanced diagnostic options ensure stable processes
- Programmable switching thresholds and windows make predictive maintenance easier and reduce machine downtimes
- Switching point teaching enables precise object positioning without the need for time-consuming adjustment
- Reduced costs as fewer sensors or sensor variants are required
- Stable signals thanks to integrated debounce function
- Reduced project planning and cabling work as complex tasks are easy to implement directly in the process
- Future-proof thanks to IO-Link 1.1 communication

Additional information

→ www.sick.com/IMC

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

8020166/2016-12-08
Subject to change without notice

Detailed technical data

Features

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Housing	Cylindrical thread design				Rectangular	
Thread size	M8 x 1	M12 x 1	M18 x 1	M30 x 1.5	–	
Dimensions (W x H x D)	–				10 mm x 28 mm x 16 mm	12 mm x 40 mm x 26 mm
Sensing range S_n (adjustable)						
Flush	0 ... 2 mm	0 ... 4 mm	0 ... 8 mm	0 ... 15 mm	0 ... 3 mm	0 ... 4 mm
Non-flush	0 ... 4 mm	0 ... 8 mm	0 ... 12 mm	0 ... 20 mm	–	–
Safe sensing range S_a	S_n x 0,81					
Number of switching points	Up to 4 adjustable switching points or windows					
Switching modes	Single point, Window mode, Two point mode, Optical adjustment indicator					
Installation type	Flush / non-flush (depending on type)				Flush	
Connection type [1]	Male connector M12, 4-pin				Cable with M12 male connector, 4-pin, 0.2 m, PVC	
Output type	PNP					
Output Q/C	Switching output or IO-Link mode					
Output MFC	Switching output or input					
Output function	NC / NO programmable					
Electrical wiring	DC 4-wire					
Enclosure rating	IP 68 [2], IP 69K [3]				IP 68 [2]	
Special features	Resistant against coolant lubricants				–	
Diagnosis	Chip temperature					
Pin 2 configuration	External input, Teach-in, switching signal					

[1] With gold plated contact pins.

[2] According to EN 60529.

[3] According to ISO 20653:2013-03.

Smart Task

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Smart Task	Counter, Debouncing					
Logic function	Window, Hysteresis, Direct					
Timer function	Deactivated, On delay, Off delay, ON and OFF delay, Impulse (one shot)					
Inverter	Adjustable					
Switching frequency	1000 Hz [1] [2] [3]		250 Hz [1] [2] [3]	200 Hz [1] [2] [3]	1000 Hz [1] [2] [3]	
Maximum counting frequency	1000 Hz [2] [3]		250 Hz [2] [3]	200 Hz [2] [3]	1000 Hz [2] [3]	
Counter reset	SIO Logic: 500 µs [2] IOL: --- [3]					
Min. Time between two process events (switches) [2] [3]	0.5 ms [2] [3]		2 ms [2] [3]	2.5 ms [2] [3]	0.5 ms [2] [3]	
Debounce time max.	30 s [2] [3]					
Switching signal Q_{L1} / Q_{L2}	Output type (dependant on the adjusted threshold)					
Measuring value	Counting value					

[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.

Fieldbus, industrial network

Fieldbus integration	IO-Link V1.1
Type of fieldbus integration	Integrated in the device
Mode	COM 2 (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 = counting value

Mechanics/electronics

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Supply voltage [1]	10 V DC ... 30 V DC					
Ripple	≤ 10 %					
Voltage drop [2]	≤ 2 V					
Current consumption [3]	≤ 35 mA					
Hysteresis [4]	Programmable					
Repeatability [5] [6]	≤ 5 %					
Temperature drift (of S_r)	± 10 %					
EMC	According to EN 60947-5-2					
Continuous current I_a [7]	≤ 200 mA					
Short-circuit protection	✔					
Reverse polarity protection	✔					
Power-up pulse protection	✔					
Shock and vibration resistance	100 g / 11 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz / 1 mm; 55 Hz ... 500 Hz / 60 g				30 g, 11 ms / 10 ... 55 Hz, 1 mm	
Ambient operating temperature	–40 °C ... +75 °C				–25 °C ... +75 °C	
Housing material	Stainless steel, V2A (1.4305)				Plastic, VISTAL®	
Sensing face material	Plastic, LCP				Plastic, VISTAL®	
Tightening torque, max. [8]	Typ. 14 Nm	Typ. 32 Nm	Typ. 90 Nm	Typ. 100 Nm	< 1 Nm	
Teach-in accuracy	+/- 3% of Sr					
Distance value-resolution (Detail see page 26)	5 µm ... 50 µm	10 µm ... 100 µm	25 µm ... 150 µm	25 µm ... 150 µm	20 µm	20 µm

[1] IO-Link mode: 18 VDC ... 30 VDC.
[2] At I_a max.
[3] Without load.
[4] For compliance with EN 60947-5-2, a hysteresis of about 10% must be set.
[5] Ub and Ta constant.
[6] Of Sr.
[7] 200 mA total for both switching outputs.
[8] Valid if toothed side of nut is used.

Reference values

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
	Reference value in Digits for switching point in mm stored in the sensor					
Reference value 1						
Flush	2 mm	4 mm	7 mm	14 mm	3 mm	4 mm
Non-flush	4 mm	8 mm	12 mm	20 mm	–	–

8020166/2016-12-08
Subject to change without notice

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Reference value 2						
Flush	1.5 mm	3 mm	5 mm	10 mm	2 mm	3 mm
Non-flush	3 mm	6 mm	10 mm	15 mm	–	–
Reference value 3						
Flush	1 mm	2 mm	3 mm	6 mm	1 mm	2 mm
Non-flush	2 mm	4 mm	8 mm	10 mm	–	–
Reference value 4						
Flush	0.5 mm	1 mm	1 mm	2 mm	0.5 mm	1 mm
Non-flush	1 mm	2 mm	5 mm	5 mm	–	–

Reduction factors

	IMC08	IMC12	IMC18	IMC30	IQC10	IQC12
Stainless steel (V2A, 304)						
Flush	Approx. 0.7	Approx. 0.7	Approx. 0.6	Approx. 0.6	Approx. 0.7	Approx. 0.7
Non-flush	Approx. 0.7	Approx. 0.7	Approx. 0.7	Approx. 0.8	–	–
Aluminum (Al)						
Flush	Approx. 0.4	Approx. 0.4	Approx. 0.3	Approx. 0.2	Approx. 0.4	Approx. 0.4
Non-flush	Approx. 0.4	Approx. 0.4	Approx. 0.4	Approx. 0.4	–	–
Copper (Cu)						
Flush	Approx. 0.3	Approx. 0.3	Approx. 0.2	Approx. 0.2	Approx. 0.3	Approx. 0.3
Non-flush	Approx. 0.3	Approx. 0.4	Approx. 0.4	Approx. 0.2	–	–
Brass (Br)						
Flush	Approx. 0.4	Approx. 0.4	Approx. 0.2	Approx. 0.2	Approx. 0.5	Approx. 0.4
Non-flush	Approx. 0.4	Approx. 0.4	Approx. 0.4	Approx. 0.4	–	–

Ordering information

Other models ➜ www.sick.com/IMC

- **Smart Task:** Counter, debouncing

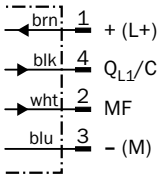
Dimensions	Installation type	Sensing range S_n [1]	Connection [2]	Type	Part no.
M8 x 1	Flush	0 mm ... 2 mm	Male connector, M12, 4-pin	IMC08-02BPPVC0SA71	1079282
	Non-flush	0 mm ... 4 mm	Male connector, M12, 4-pin	IMC08-04NPPVC0SA71	1079285
M12 x 1	Flush	0 mm ... 4 mm	Male connector, M12, 4-pin	IMC12-04BPPVC0SA71	1079288
	Non-flush	0 mm ... 8 mm	Male connector, M12, 4-pin	IMC12-08NPPVC0SA71	1079291
M18 x 1	Flush	0 mm ... 8 mm	Male connector, M12, 4-pin	IMC18-08BPPVC0SA71	1079294
	Non-flush	0 mm ... 12 mm	Male connector, M12, 4-pin	IMC18-12NPPVC0SA71	1079297
M30 x 1.5	Flush	0 mm ... 15 mm	Male connector, M12, 4-pin	IMC30-15BPPVC0SA71	1079300
	Non-flush	0 mm ... 20 mm	Male connector, M12, 4-pin	IMC30-20NPPVC0SA71	1079303
10 mm x 28 mm x 16 mm	Flush	0 mm ... 3 mm	Cable with male connector, M12, 4-pin, 0.2 m	IQC10-03BPPKQ8SA71	1083795
12 mm x 40 mm x 26 mm	Flush	0 mm ... 4 mm		IQC12-04BPPKQ8SA71	1083798

[1] Adjustable.

[2] With gold plated contact pins.

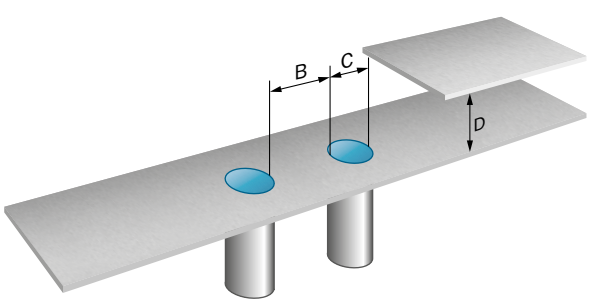
Connection diagram

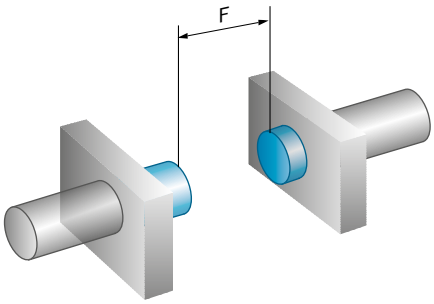
Cd-367



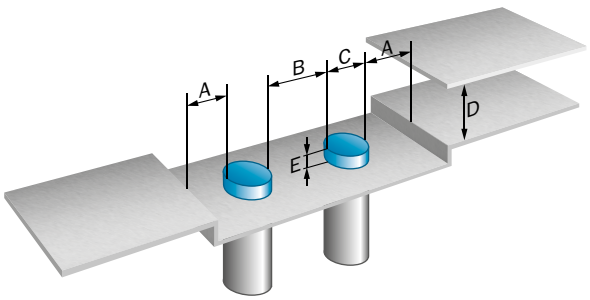
Installation note

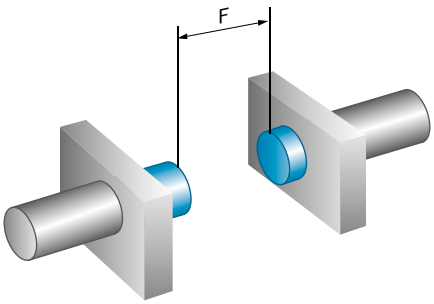
Flush installation

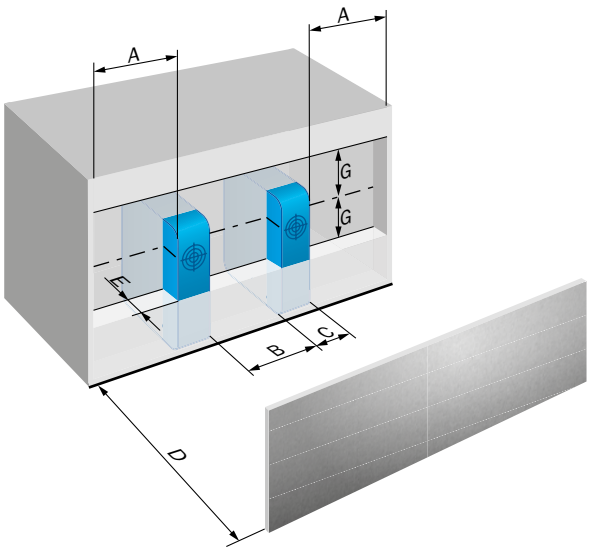


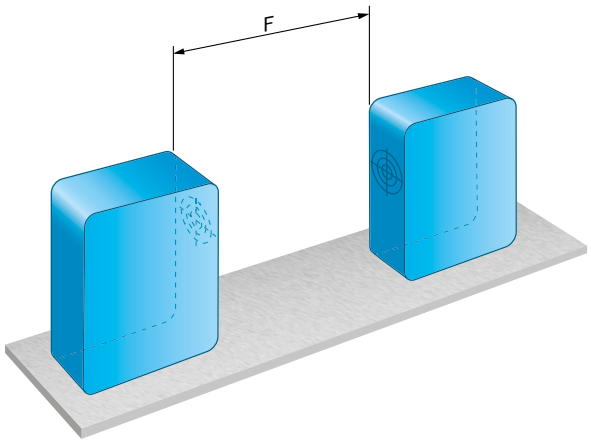


Non-flush installation









	Installation	Sensing range Sn	A	B	C	D	E	F	G
IMC08-02Bxxxxxx	Flush	2 mm	-	6.5 mm	8 mm	6 mm	-	16 mm	-
IMC08-04Nxxxxxx	Non-flush	4 mm	8 mm	18 mm	8 mm	12 mm	8 mm	32 mm	-

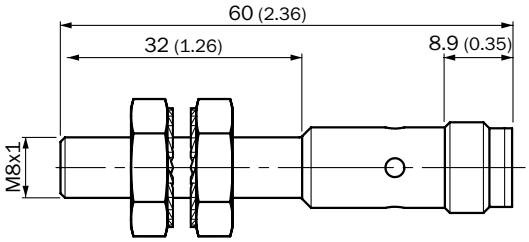
8020166/2016-12-08
Subject to change without notice

	Installation	Sensing range Sn	A	B	C	D	E	F	G
IMC12-04Bxxxxxx	Flush	4 mm	-	12 mm	12 mm	12 mm	-	32 mm	-
IMC12-08Nxxxxxx	Non-flush	8 mm	12 mm	24 mm	12 mm	24 mm	16 mm	64 mm	-
IMC18-08Bxxxxxx	Quasi-flush	8 mm	9 mm	18 mm	18 mm	24 mm	2 mm	64 mm	-
IMC18-12Nxxxxxx	Non-flush	12 mm	18 mm	36 mm	18 mm	36 mm	12 mm	96 mm	-
IMC30-15Bxxxxxx	Flush	15 mm	-	40 mm	30 mm	45 mm	-	120 mm	-
IMC30-20Nxxxxxx	Non-flush	20 mm	20 mm	62 mm	30 mm	60 mm	20 mm	160 mm	-
IQC10-03Bxxxxxx	Flush	3 mm	0 mm	10 mm	10.3 mm	9 mm	0 mm	24 mm	0 mm
IQC12-04Bxxxxxx	Flush	4 mm	0 mm	12 mm	12 mm	12 mm	0 mm	32 mm	0 mm

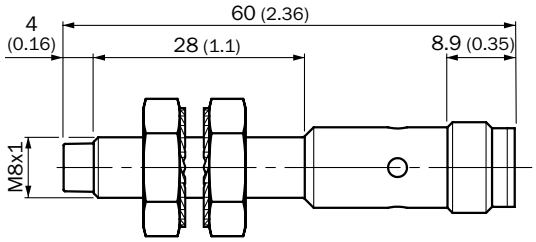
Dimensional drawings

Dimensions in mm (inch)

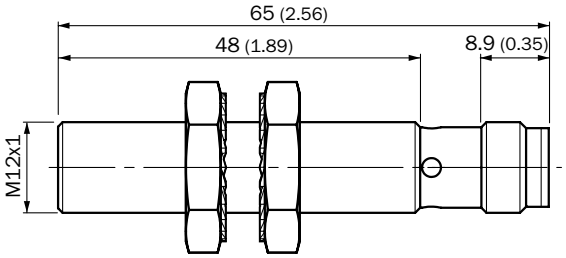
IMC08 Standard, connector, M12, flush



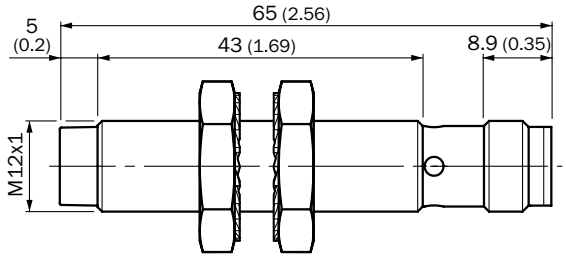
IMC08 Standard, connector M12, non-flush



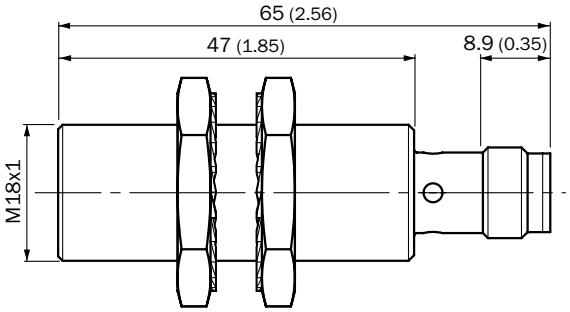
IMC12 Standard, connector, M12, flush



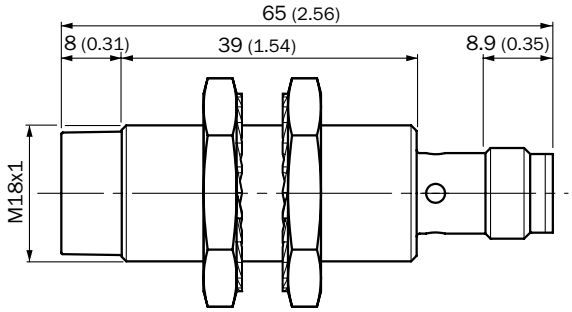
IMC12 Standard, connector M12, non-flush



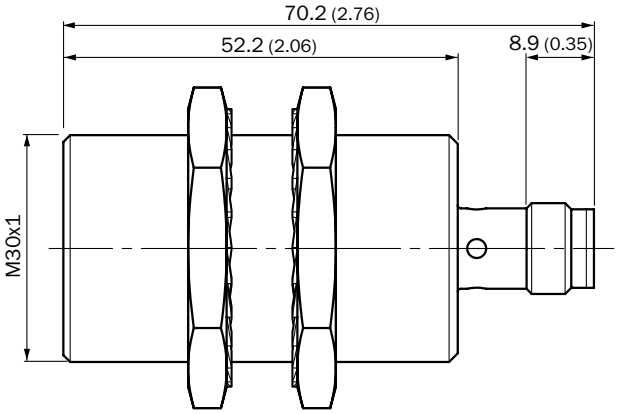
IMC18 Standard, connector, M12, flush



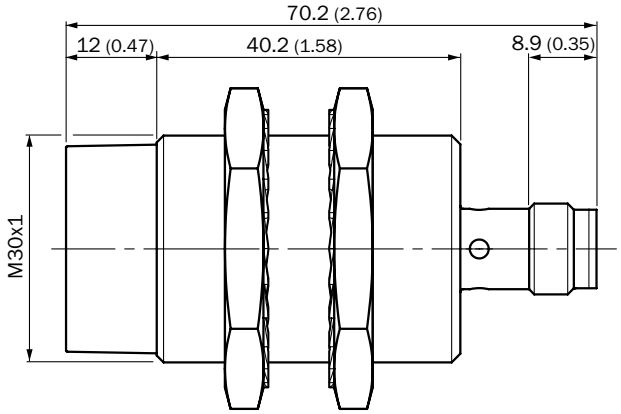
IMC18 Standard, connector M12, non-flush



IMC30 Standard, connector, M12, flush

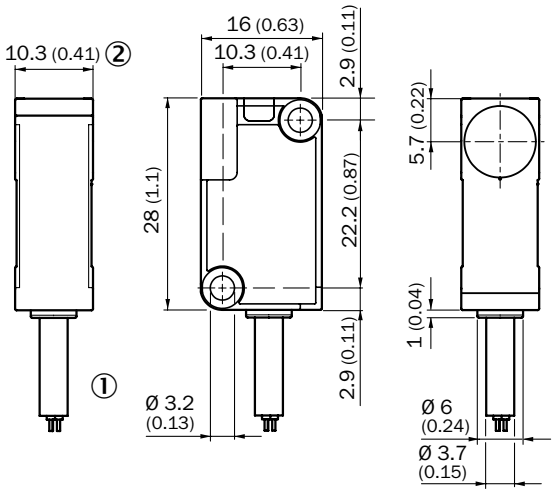


IMC30 Standard, connector M12, non-flush

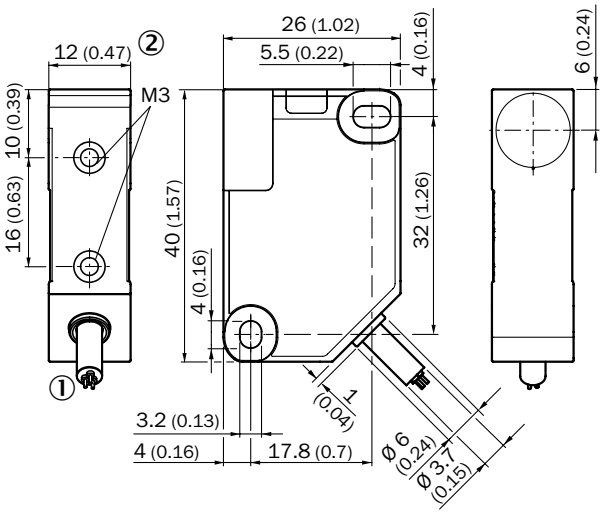


8020166/2016-12-08
Subject to change without notice

IQC10, cable with male connector M12

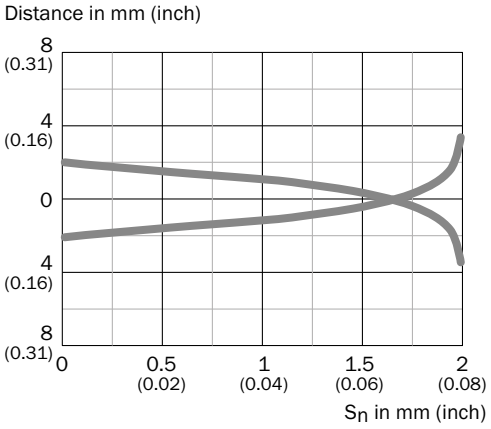


IQC12, cable with male connector M12

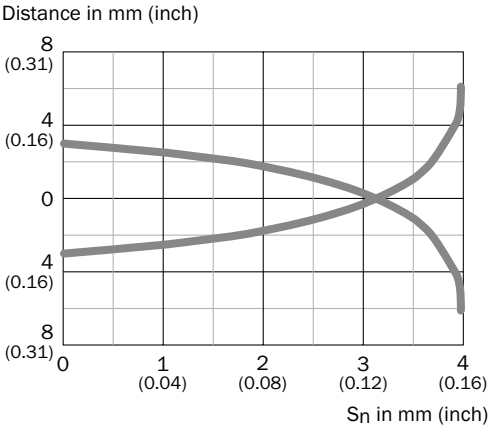


Response diagrams

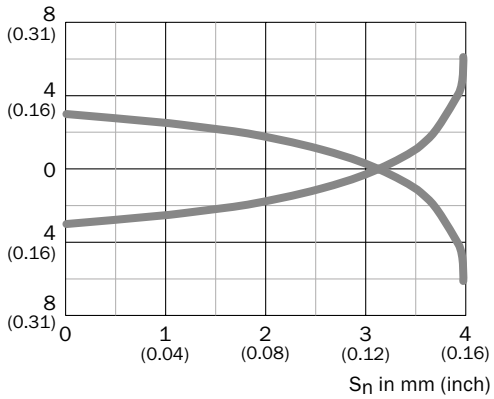
IMC08, flush installation



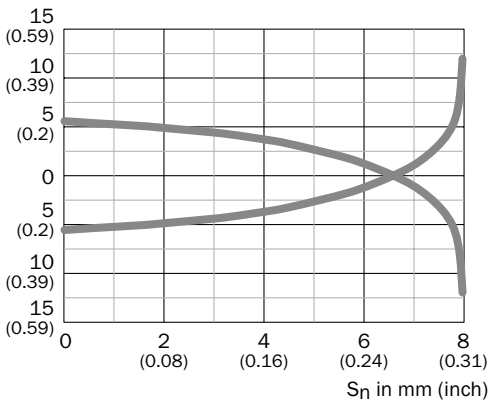
IMC08, non-flush installation



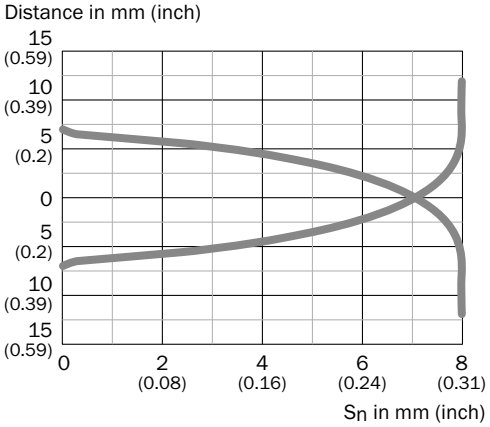
IMC12, flush installation



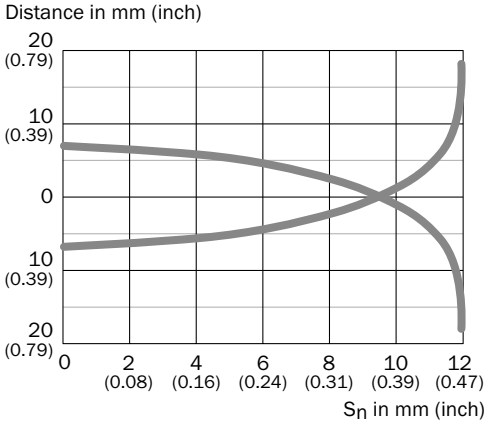
IMC12, non-flush installation



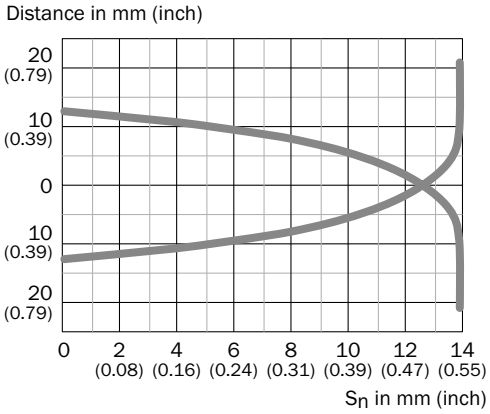
IMC18, flush installation



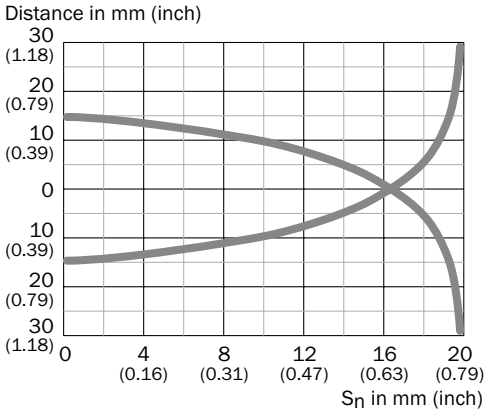
IMC18, non-flush installation



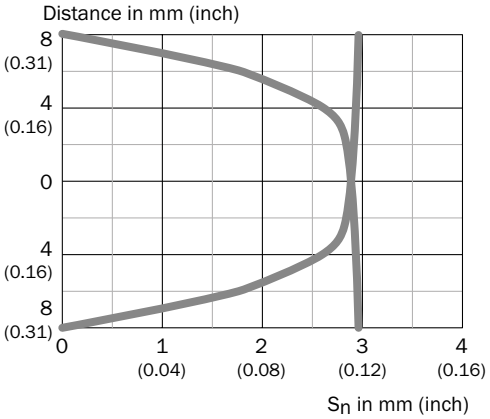
IMC30, flush installation



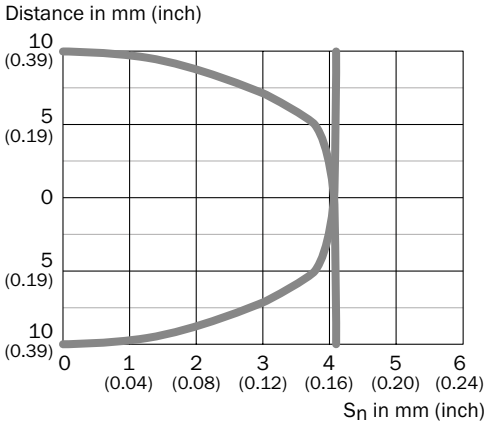
IMC30, non-flush installation



IQC10



IQC12



8020166/2016-12-08
Subject to change without notice

Resolution

	Installation	Range [mm]	Resolution, typ. [µm]	Resolution, max. [µm]
IMC08-02Bxxxxxx	Flush	0-0,5	5	10
		0,5-1,5	20	40
		1,5-2	25	50
IMC08-04Nxxxxxx	Non-flush	0-1	10	20
		1-3	20	40
		3-4	50	100
IMC12-04Bxxxxxx	Flush	0-1	10	20
		1-3	20	40
		3-4	40	75
IMC12-08Nxxxxxx	Non-flush	0-4	20	40
		4-6	50	100
		6-8	100	200
IMC18-08Bxxxxxx	Quasi-flush	0-5	25	50
		5-8	150	300
IMC18-12Nxxxxxx	Non-flush	0-8	40	75
		8-10	75	150
		10-12	150	300
IMC30-15Bxxxxxx	Flush	0-6	25	50
		6-10	75	150
		10-15	300	500
IMC30-20Nxxxxxx	Non-flush	0-15	75	150
		15-20	150	300
IQC10-03Bxxxxxx	Flush	0-3	20	40
IQC12-04Bxxxxxx	Flush	0-4	20	40

Accessories

Mounting systems

Universal bar clamp systems

Figure	Description	Material	Type	Part no.	IMC IMC08	IMC IMC12	IMC IMC18	IMC IMC30
	Universal bar clamp for mounting bars with 12 mm diameter	Zinc diecast	BEF-KHS-KH3	5322626	●	●	●	●
		Stainless steel V2A (1.4301)	BEF-KHS-KH3N	5322627	●	●	●	●
	Plate N05 for universal clamp bracket, M12	Zinc plated steel (sheet), Zinc die cast (clamping bracket)	BEF-KHS-N05	2051611	–	●	–	–
	Plate N05N for universal clamp bracket, M12	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	BEF-KHS-N05N	2051621	–	●	–	–
	Plate N06 for universal clamp bracket, M18	Zinc plated steel (sheet), Zinc die cast (clamping bracket)	BEF-KHS-N06	2051612	–	–	●	–
	Plate N06N for universal clamp bracket, M18	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	BEF-KHS-N06N	2051622	–	–	●	–
	Plate N10 for universal clamp bracket, M30	Zinc plated steel (sheet), Zinc die cast (clamping bracket)	BEF-KHS-N10	2062372	–	–	–	●
	Plate N11N for universal clamp bracket	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	BEF-KHS-N11N	2071081	●	●	●	●
	Mounting bar, straight, 200 mm, steel	Steel, zinc coated	BEF-MS12G-A	4056054	●	●	●	●
	Mounting bar, straight, 300 mm, steel		BEF-MS12G-B	4056055	●	●	●	●
	Mounting bar, straight, 200 mm, stainless steel	Stainless steel (1.4571)	BEF-MS12G-NA	4058914	●	●	●	●
	Mounting bar, straight, 300 mm, stainless steel		BEF-MS12G-NB	4058915	●	●	●	●
	Mounting bar, L-shaped, 150 mm x 150 mm, steel	Steel, zinc coated	BEF-MS12L-A	4056052	●	●	●	●
	Mounting bar, L-shaped, 250 x 250 mm, steel		BEF-MS12L-B	4056053	●	●	●	●
	Mounting bar, Z-shaped, 150 mm x 70 mm x 150 mm, stainless steel	Stainless steel (1.4571)	BEF-MS12Z-NA	4058916	●	●	●	●
	Mounting bar, Z-shaped, 150 mm x 70 mm x 250 mm, stainless steel		BEF-MS12Z-NB	4058917	●	●	●	●

Mounting brackets and plates

Mounting brackets

Figure	Description	Material	Type	Part no.	IMC IMC08	IMC IMC12	IMC IMC18	IMC IMC30
	Mounting plate for M8 sensors	Steel, zinc coated	BEF-WG-M08	5321722	●	–	–	–
	Mounting plate for M12 sensors		BEF-WG-M12	5321869	–	●	–	–
	Mounting plate for M12 sensors	Stainless steel	BEF-WG-M12N	5320950	–	●	–	–

8020166/2016-12-08

Figure	Description	Material	Type	Part no.	IMC IMC08	IMC IMC12	IMC IMC18	IMC IMC30
	Mounting plate for M18 sensors	Steel, zinc coated	BEF-WG-M18	5321870	–	–	●	–
	Mounting plate for M18 sensors	Stainless steel	BEF-WG-M18N	5320948	–	–	●	–
	Mounting plate for M30 sensors	Steel, zinc coated	BEF-WG-M30	5321871	–	–	–	●
	Mounting bracket for M8 sensors		BEF-WN-M08	5321721	●	–	–	–
	Mounting bracket for M12 sensors		BEF-WN-M12	5308447	–	●	–	–
	Mounting bracket for M12 housing	Stainless steel	BEF-WN-M12N	5320949	–	●	–	–
	Mounting bracket for M18 sensors	Steel, zinc coated	BEF-WN-M18	5308446	–	–	●	–
	Mounting bracket for M18 sensors	Stainless steel	BEF-WN-M18N	5320947	–	–	●	–
	Mounting bracket for M30 sensors	Steel, zinc coated	BEF-WN-M30	5308445	–	–	–	●

Connection systems

Modules and gateways

Connection modules

Figure	Brief description	Type	Part no.
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790

Fieldbus modules

Figure	Brief description	Type	Part no.
	EtherCAT IO-Link Master, IO-Link V1.1, power supply via 7/8'' cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2EC-03208R01 (IO-Link Master)	6053254
	EtherNet/IP IO-Link Master, IO-Link V1.1, power supply via 7/8'' cable 24 V / 8 A, fieldbus connection via M12-cable	IOLG2EI-03208R01 (IO-Link Master)	6053255
	PROFINET IO-Link Master, IO-Link V1.1, Class A port, power supply via 7/8'' cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2PN-03208R01 (IO-Link Master)	6053253

Plug connectors and cables

Connecting cables with female connector M12, 4-pin, PP, hygienic systems

- **Cable material:** PP
- **Connector material:** PP
- **Locking nut material:** stainless steel (V4A/1.4404)
- **Description:** 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.

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.
	Female connector, M12, 4-pin, straight, unshielded	Cable, Flying leads	2 m, 4-wire	DOL-1204-G02MRN	6058291
			5 m, 4-wire	DOL-1204-G05MRN	6058476
			10 m, 4-wire	DOL-1204-G10MRN	6058478
			25 m, 4-wire	DOL-1204-G25MRN	6058480
	Female connector, M12, 4-pin, angled, with 2 LEDs, unshielded	Cable, Flying leads	2 m, 4-wire	DOL-1204-L02MRN	6058482
			5 m, 4-wire	DOL-1204-L05MRN	6058483
			10 m, 4-wire	DOL-1204-L10MRN	6058484
			25 m, 4-wire	DOL-1204-L25MRN	6058485
	Female connector, M12, 4-pin, angled, unshielded	Cable, Flying leads	2 m, 4-wire	DOL-1204-W02MRN	6058474
			5 m, 4-wire	DOL-1204-W05MRN	6058477
			10 m, 4-wire	DOL-1204-W10MRN	6058479
			25 m, 4-wire	DOL-1204-W25MRN	6058481

Connection cables with female connector and male connector M12, 4-pin, PP, hygienic systems

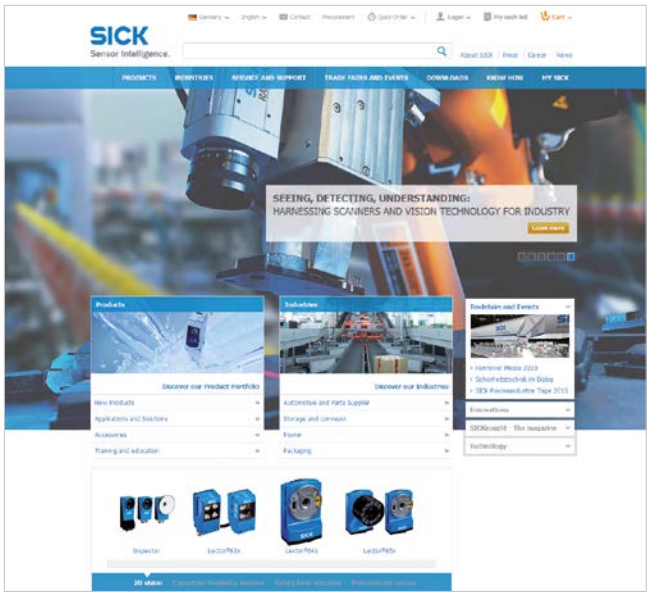
- **Cable material:** PP
- **Connector material:** PP
- **Locking nut material:** stainless steel (V4A/1.4404)
- **Description:** This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.
	Female connector, M12, 4-pin, angled, unshielded	Male connector, M12, 4-pin, straight	2 m, 4-wire	DSL-1204-B02MRN	6058502
			5 m, 4-wire	DSL-1204-B05MRN	6058503
	Female connector, M12, 4-pin, straight, unshielded	Male connector, M12, 4-pin, straight	2 m, 4-wire	DSL-1204-G02MRN	6058499
			5 m, 4-wire	DSL-1204-G05MRN	6058500

8020166/2016-12-08

REGISTER AT WWW.SICK.COM TODAY AND ENJOY ALL THE BENEFITS

- Select products, accessories, documentation and software quickly and easily.
- Create, save and share personalized wish lists.
- View the net price and date of delivery for every product.
- Requests for quotation, ordering and delivery tracking made easy.
- Overview of all quotations and orders.
- Direct ordering: submit even very complex orders in moments.
- View the status of quotations and orders at any time. Receive e-mail notifications of status changes.
- Easily repeat previous orders.
- Conveniently export quotations and orders to work with your systems.



SERVICES FOR MACHINES AND SYSTEMS: SICK LifeTime Services

Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.

Consulting and design
Safe and professional

Product and system support
Reliable, fast and on-site

Verification and optimization
Safe and regularly inspected

Upgrade and retrofits
Easy, safe and economical

Training and education
Practical, focused and professional

8020166/2016-12-08 · 1M · Pre USmod en46

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 7,400 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. 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 various 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 round out 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:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com

SICK
Sensor Intelligence.