



# IMB

THE TOUGHEST DECISION YOU CAN MAKE

Inductive Proximity Sensors

**SICK**  
Sensor Intelligence.

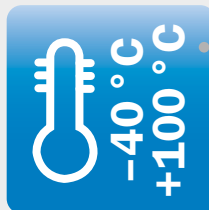


Inductive sensors have to be tough enough to cope with anything that's thrown at them. So it's about time that one took the lead and showed the others how it's done.

The IMB from SICK is both more resilient on the outside and more intelligent on the inside, boasting levels of chemical and mechanical resistance unmatched by any other device of the same construction, allowing it to withstand lubricants, oils, and coolants, as well as extreme temperatures and weather conditions. The IMB effortlessly defies the preconception that tough guys aren't very intelligent, with its ASIC technology and the option of communication via IO-Link: Making its switching as reliable as its exterior is rugged. It doesn't matter how extreme the conditions are at your installation location – from now on the focus is on the survival of the smartest rather than the fittest. We think that's intelligent.

**Protected against water**

- IP 68 and IP 69K enclosure rating due to sealing concept

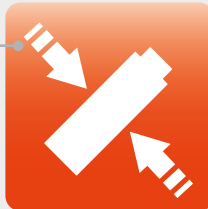


**Wide temperature range**

- Digital temperature compensation with SICK-ASIC technology

**Mechanically rugged**

- High tightening torque and strength due to stainless steel housing

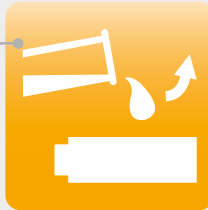


**Shock and vibration resistant**

- Shock resistant up to 150 g

**Resistant against cooling lubricant**

- Resistant against all common cutting oils and cooling lubricant

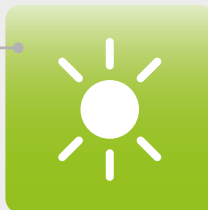


**Corrosion resistant**

- Long-lasting due to stainless steel housing

**Visual installation aid**

- LED indicates when the secured sensing range has been reached



**IO-Link compatible**

- Option of communicating via IO-Link 1.0

# WEAR-RESISTANT

## MACHINE TOOLING

The IMB is setting a new standard for inductive proximity sensors in the machine building industry.



### Typical applications

- CNC machining center
- Tool changer
- Workpiece handling

### Advantages

- Optimal resistance against oils and cooling lubricant
- Extreme mechanical ruggedness
- Quick and easy mounting due to visual adjustment indicator
- High levels of flexibility and numerous communication options due to IO-Link



## HARSH ENVIRONMENT APPLICATIONS

When outdoors or anywhere, in which difficult application conditions prevail, the IMB utilizes its features in a particularly impressive way, its sensor covering a variety of applications.

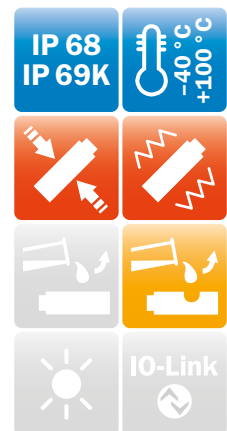


### Typical applications

- Container spreaders
- Wind power plants
- Car wash plants
- Outdoor gates and barriers

### Advantages

- Protected against water
- Immune to temperature fluctuations
- Extreme mechanical ruggedness
- Shock and vibration resistant
- Corrosion resistant



## TOUGH AND RELIABLE

Some situations demand significant reliability and toughness. The versatility of the inductive proximity sensor IMB is up to the challenge. Equipped with features tough enough for anything the market can throw at it, it's able to deal with any situation – regardless of the challenges presented by the site of operation. In the end, opting for the IMB is a simple decision.



Water – the source of all life. But not all of its aspects are positive: Too much can also be harmful. Being immersed in it for extended periods or being cleaned with high-pressure washers can shorten the life of many sensors. Not the case for the IMB. Frequent contact with water is unable to harm it, regardless of whether it is being immersed or sprayed with highly pressurized jets.



Novosibirsk in winter:  $-40\text{ }^{\circ}\text{C}$ . While others may freeze, the IMB carries on its work unaffected. Death Valley: Scorching sun and surface temperatures over  $+80\text{ }^{\circ}\text{C}$ . Even in conditions such as these, the IMB doesn't show any signs of weakness. Even temperatures that can evaporate water are no sweat for the IMB.



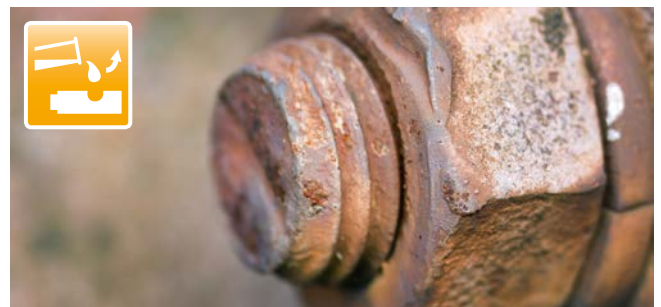
The wheel screws on cars are often tightened at 100 Nm – just to make sure. This also applies to the IMB, as it is equipped with extra high tightening torque values up to 100 Nm.



During reentry into orbit, the Apollo capsule experienced approximately 6.4 G. 100 G is the maximum value that human beings can survive when it comes to accidents or severe injuries. And even machines have their limits. These limits, however, are significantly higher with the IMB: It can effortlessly withstand loads of up to 150 G.



What does the IMB have to do with pickled olives? At first glance, nothing. But unlike cooking oils, cutting oils and cooling lubricant are extremely aggressive towards system components and often cause sensor malfunctions. The IMB, on the other hand, is designed for frequent contact with these substances – therefore remaining as fresh as olives in oil when in contact with cooling lubricant.



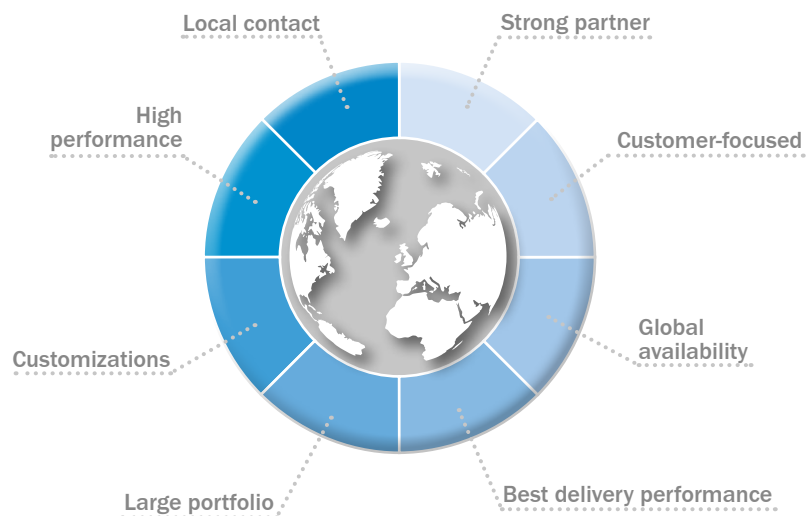
The ravages of time gnaw away at almost everything, leaving noticeable impacts behind. Perhaps most noticeably of all when corrosion attacks surfaces in the form of rust. Due to its stainless steel housing and laser engraving, the IMB does not leave any surface vulnerable to attack, continuing to gleam long after others have started to rust.

# SICK – WE HAVE UNDERSTOOD

In addition to their high performance, the inductive sensors by SICK are simply perfect all-rounders. Global availability, optimum delivery performance and a large portfolio characterize the inductive sensors – and make SICK the right partner.

If the right sensor is not available despite the large product range, customizations provide an even higher degree of flexibility. Our aim is give you the right sensor for your application – at the right time.

Even when it is a tricky task. Thanks to a global support network in over 88 countries, SICK can always work with you to find a solution.



As a major player in automation technology, partnership with SICK offers a variety of benefits. We are committed to driving innovation in the industry, even in areas neglected by others – and we want to do this on a global scale in all sectors. Our global network of production plants

with unified quality standards guarantees a safe and reliable supply. Our elaborate logistics concept ensures rapid availability on site, regardless of which of our over 40,000 products you require. The individual needs of our customers are paramount to SICK.

Our local sales department will advise and support you with your automation projects. Together with our regional development and competence centers, we will always create a solution which adds value for our customers.

The IMB is available with the following sensing ranges:

Product	Sensing range (mm)	Page
M08 flush	2 mm	6
M08 non-flush	4 mm	6
M12 flush	4 mm	14
M12 non-flush	8 mm	14
M18 flush	8 mm	22
M18 non-flush	12 mm	22
M30 flush	15 mm	30
M30 non-flush	20 mm	30

# THE RUGGED STANDARD FOR USE IN HARSH ENVIRONMENTS



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## Product description

The inductive IMB proximity sensor is a byword for reliability in harsh working conditions, whether it is in contact with cooling lubricants or being used outdoors. With its extended sensing ranges, made highly precise thanks to the use of SICK ASIC technology, the IMB ensures reliable, stable processes. What's more, its wide-ranging specification limits allow the IMB to be used in applications where specialist devices were once the only solution – a huge benefit when it

comes to product selection and warehousing. The visual adjustment indicator and self-locking nuts save time during commissioning and help cut down on errors. Communication via IO-Link is also possible, creating more flexibility and adding more functions for automation applications. With an extensive standard product portfolio available, even special devices can be put into action quickly and easily.

## At a glance

- Type M08
- Extended sensing ranges: 2 to 4 mm
- Electrical wiring: DC 2/3/4-wire
- Enclosure rating: IP 68, IP 69K
- Temperature range: -40 °C to 100 °C
- Rugged stainless steel housing, sensing face made of plastic (LCP)
- Visual installation aid, IO-Link-compatible
- Resistant to oils and cooling lubricants; suitable for use outdoors

## Your benefits

- Straightforward product selection as fewer sensor variants are required – one sensor suits a whole range of applications
- Stable processes thanks to extended, highly precise sensing ranges enabled through the use of the latest SICK ASIC technology
- Reduced machine downtimes thanks to longer sensor service life, even in harsh working conditions
- Quick and easy installation thanks to visual installation aid and self-locking nuts
- High degree of flexibility and communication options thanks to IO-Link
- Easy to implement customer-specific variants within the standard product portfolio

→ [www.mysick.com/en/IMB08](http://www.mysick.com/en/IMB08)

For more information, just 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.



## Detailed technical data

## Features

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Housing</b>	Cylindrical		
<b>Thread size</b>	M8 x 1		
<b>Sensing range <math>S_n</math></b>	Flush 2 mm Non-flush 4 mm		
<b>Assured sensing range <math>S_a</math></b>	Flush 1.62 mm Non-flush 3.24 mm		
<b>Installation type</b>	Flush / non-flush (depending on type)		
<b>Switching frequency</b>	4,000 Hz		
<b>Output type</b>	–	NPN / PNP (depending on type)	
<b>Output function</b>	NO	NC / NO (depending on type)	Complementary
<b>Electrical wiring</b>	DC 2-wire	DC 3-wire	DC 4-wire
<b>Enclosure rating</b>	IP 68 <sup>1)</sup> IP 69K <sup>2)</sup>		
<b>Special features</b>	Resistant against coolant lubricants, visual installation aid	Resistant against coolant lubricants, visual installation aid Capable of communication via IO-Link 1.0 (depending on type)	Resistant against coolant lubricants Capable of communication via IO-Link 1.0 (depending on type)

<sup>1)</sup> According to EN 60529.

<sup>2)</sup> According to ISO 20653:2013-03.

## Mechanics/electronics

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Supply voltage</b>	10 V DC ... 30 V DC		
<b>Ripple</b>	≤ 10 %		
<b>Voltage drop</b>	≤ 4 V <sup>1)</sup> ≤ 4.5 V <sup>2)</sup>	≤ 2 V <sup>2)</sup>	
<b>Current consumption</b>	–	≤ 10 mA <sup>3)</sup>	
<b>Time delay before availability</b>	≤ 100 ms		
<b>Hysteresis</b>	3 % ... 20 %		
<b>Repeatability <sup>4) 5)</sup></b>	≤ 2 %		
<b>Temperature drift (of <math>S_n</math>)</b>	± 10 %		
<b>EMC</b>	According to EN 60947-5-2		
<b>Continuous current <math>I_a</math></b>	≤ 100 mA	≤ 200 mA	
<b>Off-state current</b>	Typ. 0.8 mA (≤ 1.2 mA at $U_b$ max and 100 ° C)	–	
<b>Load resistance, min.</b>	≥ 3 mA	–	

<sup>1)</sup> At  $I_a = 30$  mA.

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup>  $U_b$  and  $T_a$  constant.

<sup>5)</sup> Of  $S_r$ .

<sup>6)</sup> With gold plated contact pins.

<sup>7)</sup> Valid if toothed side of nut is used.

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Connection type</b>	Cable, 2 m, PUR Male connector, M8 <sup>6)</sup> (depending on type)	Cable, 2 m, PUR Male connector, M8 <sup>6)</sup> Male connector, M12 <sup>6)</sup> (depending on type)	Male connector, M12 <sup>6)</sup>
<b>Short-circuit protection</b>	✓		
<b>Reverse polarity protection</b>	✓		
<b>Power-up pulse protection</b>	-	✓	
<b>Power-up pulse</b>	≤ 5 ms	-	
<b>Shock and vibration resistance</b>	100 g / 11 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz, 1 mm / 55 z ... 500 Hz / 15 g		
<b>Ambient operating temperature</b>	-40 °C ... +100 °C		
<b>Housing material</b>	V2A (1.4305)		
<b>Sensing face material</b>	Plastic (LCP)		
<b>Tightening torque, max. <sup>7)</sup></b>	Typ. 14 Nm		

<sup>1)</sup> At  $I_a = 30$  mA.

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup>  $U_b$  and  $T_a$  constant.

<sup>5)</sup> Of  $S_r$ .

<sup>6)</sup> With gold plated contact pins.

<sup>7)</sup> Valid if toothed side of nut is used.

## Reduction factors

Note	The values are reference values which may vary	
<b>Stainless steel (V2A, 304)</b>	Flush	Approx. 0.74
	Non-flush	Approx. 0.69
<b>Aluminum (Al)</b>	Flush	Approx. 0.43
	Non-flush	Approx. 0.37
<b>Copper (Cu)</b>	Flush	Approx. 0.33
	Non-flush	Approx. 0.28
<b>Brass (Br)</b>	Flush	Approx. 0.46
	Non-flush	Approx. 0.4

## Ordering information

Other models → [www.mysick.com/en/IMB08](http://www.mysick.com/en/IMB08)

### DC 2-wire

Installation type	Sensing range $S_n$	Housing	Connection	Output function	Connection diagram	Type	Part no.
Flush	2 mm	Short-body	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB08-02BDSVU2K	1075585
			Male connector, M8, 3-pin	NO	Cd-246	IMB08-02BDSVT0K	1075583
		Standard	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB08-02BDSVU2S	1074354
			Male connector, M8, 3-pin	NO	Cd-246	IMB08-02BDSVT0S	1074348



Installation type	Sensing range $S_n$	Housing	Connection	Output function	Connection diagram	Type	Part no.
Non-flush	4 mm	Short-body	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB08-04NDSVU2K	1075586
			Male connector, M8, 3-pin	NO	Cd-246	IMB08-04NDSVT0K	1075584
		Standard	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB08-04NDSVU2S	1074358
			Male connector, M8, 3-pin	NO	Cd-246	IMB08-04NDSVT0S	1076276

### DC 3-wire

Installation type	Sensing range $S_n$	Housing	Connection	Output type	Output function	IO-Link	Connection diagram	Type	Part no.		
Flush	2 mm	Short-body	Cable, 3-wire, 2 m, PUR	NPN	NC	–	Cd-003	IMB08-02BNOVU2K	1072700		
					NO	–	Cd-001	IMB08-02BNSVU2K	1072699		
				PNP	NC	–	Cd-003	IMB08-02BPOVU2K	1072698		
			NO		✓	Cd-001	IMB08-02BPSVU2K	1072697			
			Male connector, M8, 3-pin	NPN	NC	–	Cd-004	IMB08-02BNOVT0K	1072693		
					NO	–	Cd-002	IMB08-02BNSVT0K	1072762		
		PNP		NC	–	Cd-004	IMB08-02BPOVT0K	1072692			
			NO	✓	Cd-002	IMB08-02BPSVT0K	1072691				
		Standard	Cable, 3-wire, 2 m, PUR	NPN	NC	–	Cd-003	IMB08-02BNOVU2S	1072686		
					NO	–	Cd-001	IMB08-02BNSVU2S	1072685		
					PNP	NC	–	Cd-003	IMB08-02BPOVU2S	1072684	
				Male connector, M12, 4-pin	NPN	NC	–	Cd-008	IMB08-02BNOVC0S	1072676	
						NO	–	Cd-007	IMB08-02BNSVC0S	1072675	
					PNP	NC	–	Cd-008	IMB08-02BPOVC0S	1072674	
			NO	✓		Cd-007	IMB08-02BPSVC0S	1072673			
			Male connector, M8, 3-pin	NPN	NC	–	Cd-004	IMB08-02BNOVT0S	1072591		
					NO	–	Cd-002	IMB08-02BNSVT0S	1072590		
					PNP	NC	–	Cd-004	IMB08-02BPOVT0S	1072589	
				NO	✓	Cd-002	IMB08-02BPSVT0S	1070168			
					Short-body	Cable, 3-wire, 2 m, PUR	NPN	NC	–	Cd-003	IMB08-04NNOVU2K
		NO						–	Cd-001	IMB08-04NNSVU2K	1072702
		PNP	NC	–			Cd-003	IMB08-04NPOVU2K	1072454		
			NO	✓	Cd-001	IMB08-04NPSVU2K	1072701				
		Standard	Male connector, M8, 3-pin	NPN	NC	–	Cd-004	IMB08-04NNOVT0K	1072696		
NO	–				Cd-002	IMB08-04NNSVT0K	1070169				
PNP	NC			–	Cd-004	IMB08-04NPOVT0K	1072695				
	NO			✓	Cd-002	IMB08-04NPSVT0K	1072694				
Standard	Cable, 3-wire, 2 m, PUR			NPN	NC	–	Cd-003	IMB08-04NNOVU2S	1072690		
					NO	–	Cd-001	IMB08-04NNSVU2S	1072689		
		PNP	NC	–	Cd-003	IMB08-04NPOVU2S	1072688				
			NO	✓	Cd-001	IMB08-04NPSVU2S	1072687				
Standard	Male connector, M12, 4-pin	NPN	NC	–	Cd-008	IMB08-04NNOVC0S	1072682				
			NO	–	Cd-007	IMB08-04NNSVC0S	1072681				
		PNP	NC	–	Cd-008	IMB08-04NPOVC0S	1072678				
			NO	✓	Cd-007	IMB08-04NPSVC0S	1070170				

Installation type	Sensing range $S_n$	Housing	Connection	Output type	Output function	IO-Link	Con- nection diagram	Type	Part no.
Non-flush	4 mm	Standard	Male connector, M8, 3-pin	NPN	NC	-	Cd-004	IMB08-04NNOVT0S	1072671
					NO	-	Cd-002	IMB08-04NNSVT0S	1072594
				PNP	NC	-	Cd-004	IMB08-04NPOVT0S	1072593
					NO	✓	Cd-002	IMB08-04NPSVT0S	1072592

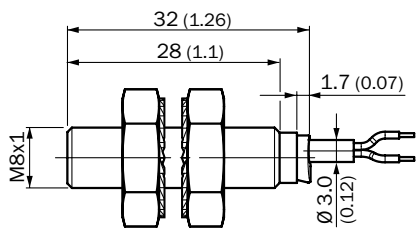
DC 4-wire

- **Housing:** standard

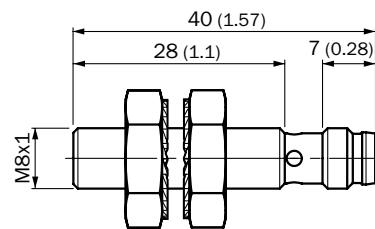
Installation type	Sensing range $S_n$	Connection	Output type	Output function	IO-Link	Connection diagram	Type	Part no.
Flush	2 mm	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB08-02BNPVC0S	1074352
			PNP	Complementary	✓	Cd-006	IMB08-02BPPVC0S	1074349
Non-flush	4 mm	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB08-04NNPVC0S	1074353
			PNP	Complementary	✓	Cd-006	IMB08-04NPPVC0S	1074350

Dimensional drawings (Dimensions in mm (inch))

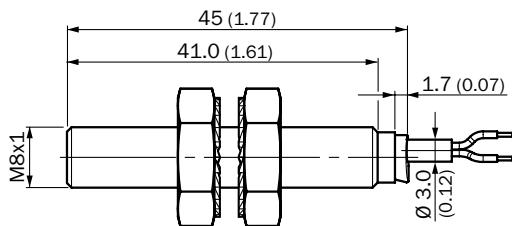
IMB08 Short-body housing, cable, flush



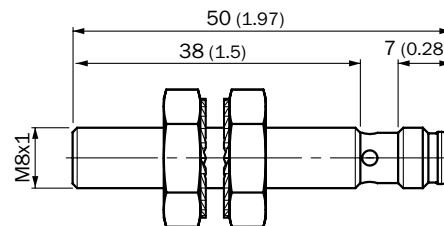
IMB08 Short-body housing, connector M8, flush



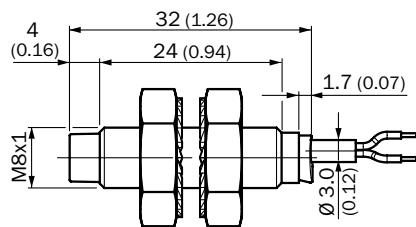
IMB08 Standard, cable, flush



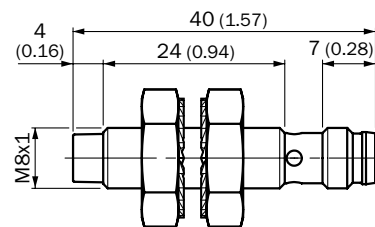
IMB08 Standard, connector, M8, flush



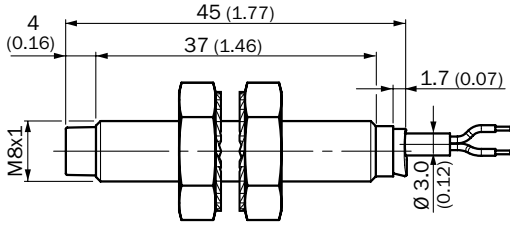
IMB08 Short-body housing, cable, non-flush



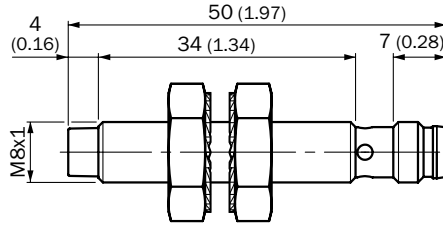
IMB08 Short-body housing, connector M8, non-flush



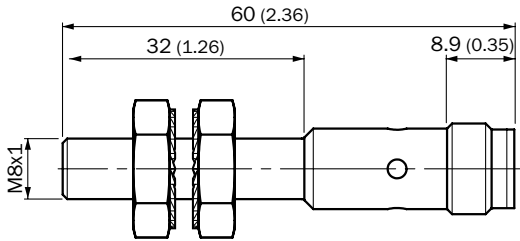
IMB08 Standard, cable, non-flush



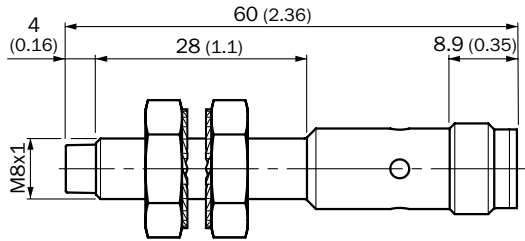
IMB08 Standard, connector M8, non-flush



IMB08 Standard, connector, M12, flush

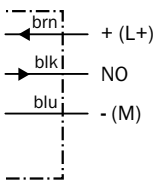


IMB08 Standard, connector M12, non-flush

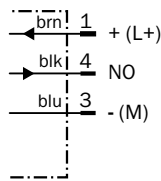


Connection diagram

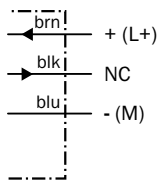
Cd-001



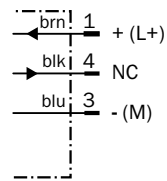
Cd-002



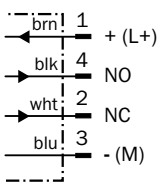
Cd-003



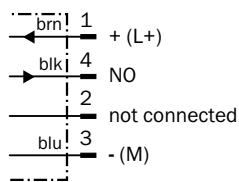
Cd-004



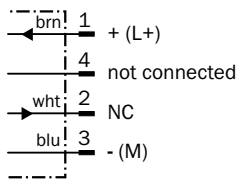
Cd-006



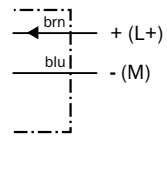
Cd-007



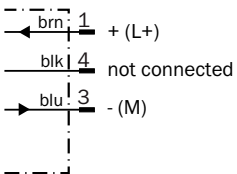
Cd-008



Cd-012

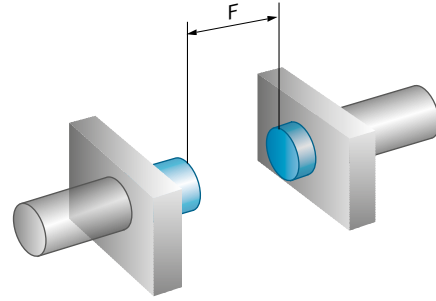
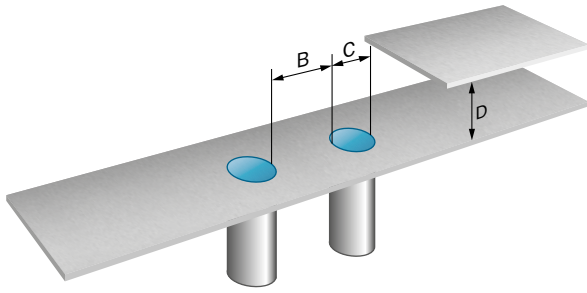


Cd-246

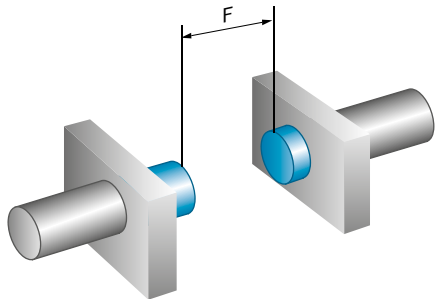
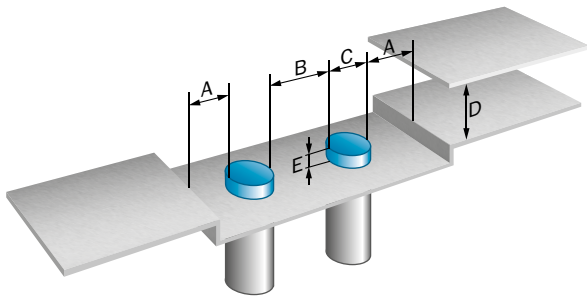


Installation note

Flush installation



Non-flush installation

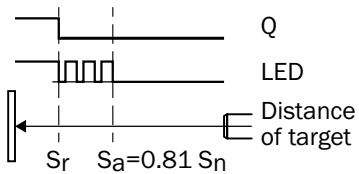


Installation note

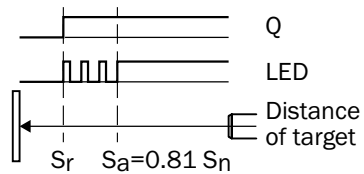
	Installation	Sensing range $S_n$	A	B	C	D	E	F
IMB08-02Bxxxxxx	Flush	2 mm	-	6.5 mm	8 mm	6 mm	-	16 mm
IMB08-04Nxxxxxx	Non-flush	4 mm	8 mm	18 mm	8 mm	12 mm	8 mm	32 mm

Installation aid

Normally closed

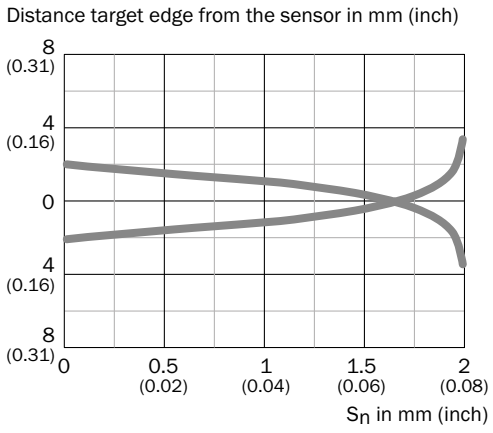


Normally open

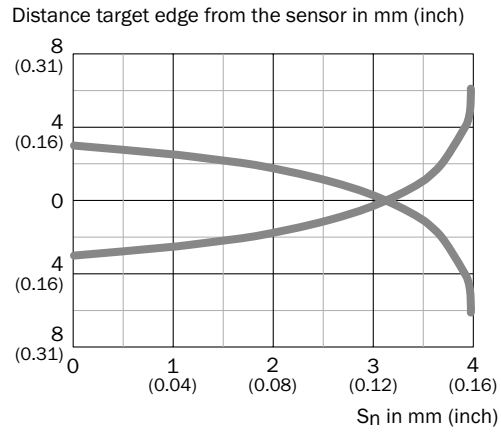


Response curve

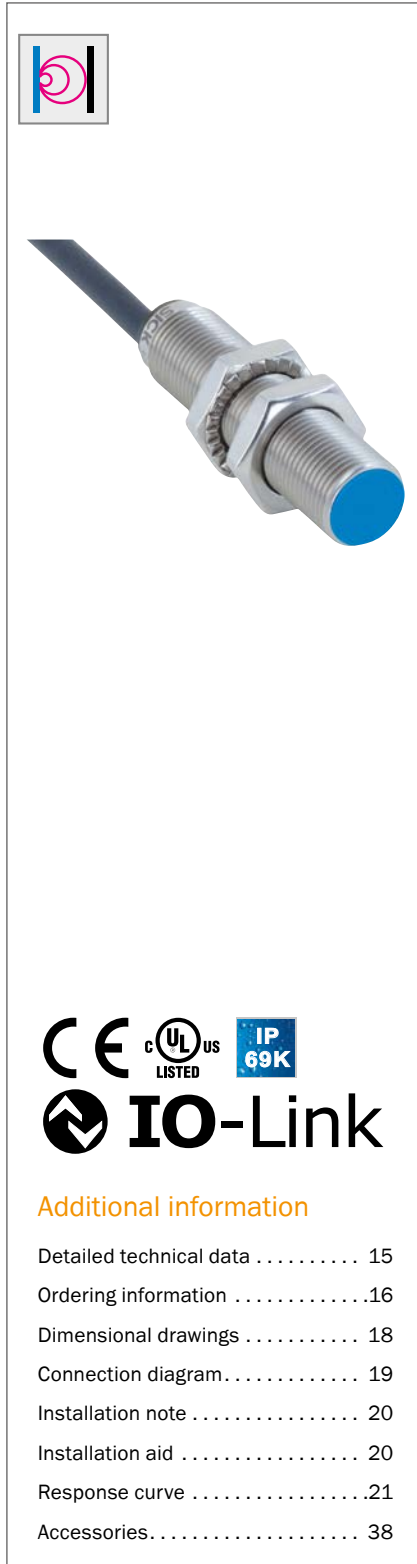
Flush installation



Non-flush installation



# THE RUGGED STANDARD FOR USE IN HARSH ENVIRONMENTS



## Product description

The inductive IMB proximity sensor is a byword for reliability in harsh working conditions, whether it is in contact with cooling lubricants or being used outdoors. With its extended sensing ranges, made highly precise thanks to the use of SICK ASIC technology, the IMB ensures reliable, stable processes. What's more, its wide-ranging specification limits allow the IMB to be used in applications where specialist devices were once the only solution – a huge benefit when it

comes to product selection and warehousing. The visual adjustment indicator and self-locking nuts save time during commissioning and help cut down on errors. Communication via IO-Link is also possible, creating more flexibility and adding more functions for automation applications. With an extensive standard product portfolio available, even special devices can be put into action quickly and easily.

## At a glance

- Type M12
- Extended sensing ranges: 4 to 8 mm
- Electrical wiring: DC 2/3/4-wire
- Enclosure rating: IP 68, IP 69K
- Temperature range: -40 °C to 100 °C
- Rugged stainless steel housing, sensing face made of plastic (LCP)
- Visual installation aid, IO-Link-compatible
- Resistant to oils and cooling lubricants; suitable for use outdoors

## Your benefits

- Straightforward product selection as fewer sensor variants are required – one sensor suits a whole range of applications
- Stable processes thanks to extended, highly precise sensing ranges enabled through the use of the latest SICK ASIC technology
- Reduced machine downtimes thanks to longer sensor service life, even in harsh working conditions
- Quick and easy installation thanks to visual installation aid and self-locking nuts
- High degree of flexibility and communication options thanks to IO-Link
- Easy to implement customer-specific variants within the standard product portfolio

## Additional information

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→ [www.mysick.com/en/IMB12](http://www.mysick.com/en/IMB12)

For more information, just 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.



## Detailed technical data

## Features

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Housing</b>	Cylindrical		
<b>Thread size</b>	M12 x 1		
<b>Sensing range <math>S_n</math></b>	Flush 4 mm Non-flush 8 mm		
<b>Assured sensing range <math>S_a</math></b>	Flush 3.24 mm Non-flush 6.48 mm		
<b>Installation type</b>	Flush / non-flush (depending on type)		
<b>Switching frequency</b>	2,000 Hz		
<b>Output type</b>	-	NPN / PNP (depending on type)	
<b>Output function</b>	NO	NC / NO (depending on type)	Complementary
<b>Electrical wiring</b>	DC 2-wire	DC 3-wire	DC 4-wire
<b>Enclosure rating</b>	IP 68 <sup>1)</sup> IP 69K <sup>2)</sup>		
<b>Special features</b>	Resistant against coolant lubricants, visual installation aid	Resistant against coolant lubricants, visual installation aid Capable of communication via IO-Link 1.0 (depending on type)	Resistant against coolant lubricants Capable of communication via IO-Link 1.0 (depending on type)

<sup>1)</sup> According to EN 60529.

<sup>2)</sup> According to ISO 20653:2013-03.

## Mechanics/electronics

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Supply voltage</b>	10 V DC ... 30 V DC		
<b>Ripple</b>	≤ 10 %		
<b>Voltage drop</b>	≤ 4 V <sup>1)</sup> ≤ 4.5 V <sup>2)</sup>	≤ 2 V <sup>2)</sup>	
<b>Current consumption</b>	-	≤ 10 mA <sup>3)</sup>	
<b>Time delay before availability</b>	≤ 100 ms		
<b>Hysteresis</b>	3 % ... 20 %		
<b>Repeatability <sup>4) 5)</sup></b>	≤ 2 %		
<b>Temperature drift (of <math>S_n</math>)</b>	± 10 %		
<b>EMC</b>	According to EN 60947-5-2		
<b>Continuous current <math>I_a</math></b>	≤ 100 mA	≤ 200 mA	
<b>Off-state current</b>	Typ. 0.8 mA (≤ 1.2 mA at $U_b$ max and 100 ° C)	-	
<b>Load resistance, min.</b>	≥ 3 mA	-	

<sup>1)</sup> At  $I_a = 30$  mA.

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup>  $U_b$  and  $T_a$  constant.

<sup>5)</sup> Of  $S_r$ .

<sup>6)</sup> With gold plated contact pins.

<sup>7)</sup> Valid if toothed side of nut is used.

<sup>8)</sup> Reference voltage DC 50 V.

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Connection type</b>	Cable, 2 m, PUR Male connector, M12 <sup>6)</sup> (depending on type)		Male connector, M12 <sup>6)</sup>
<b>Short-circuit protection</b>	✓		
<b>Reverse polarity protection</b>	✓		
<b>Power-up pulse protection</b>	-	✓	
<b>Power-up pulse</b>	≤ 5 ms	-	
<b>Shock and vibration resistance</b>	100 g / 11 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz, 1 mm / 55 z ... 500 Hz / 15 g		
<b>Ambient operating temperature</b>	-40 °C ... +100 °C		
<b>Housing material</b>	V2A (1.4305)		
<b>Sensing face material</b>	Plastic (LCP)		
<b>Tightening torque, max. <sup>7)</sup></b>	Typ. 32 Nm		
<b>Protection class <sup>8)</sup></b>	II		

<sup>1)</sup> At  $I_a = 30$  mA.

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup>  $U_b$  and  $T_a$  constant.

<sup>5)</sup> Of Sr.

<sup>6)</sup> With gold plated contact pins.

<sup>7)</sup> Valid if toothed side of nut is used.

<sup>8)</sup> Reference voltage DC 50 V.

## Reduction factors

Note	The values are reference values which may vary	
<b>Stainless steel (V2A, 304)</b>	Flush	Approx. 0.65
	Non-flush	Approx. 0.67
<b>Aluminum (Al)</b>	Flush	Approx. 0.35
	Non-flush	Approx. 0.42
<b>Copper (Cu)</b>	Flush	Approx. 0.24
	Non-flush	Approx. 0.35
<b>Brass (Br)</b>	Flush	Approx. 0.38
	Non-flush	Approx. 0.42

## Ordering information

Other models → [www.mysick.com/en/IMB12](http://www.mysick.com/en/IMB12)

### DC 2-wire

Installation type	Sensing range $S_n$	Housing	Connection	Output function	Connection diagram	Type	Part no.
Flush	4 mm	Short-body	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB12-04BDSVU2K	1074368
		Standard	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB12-04BDSVU2S	1074365
			Male connector, M12, 4-pin	NO	Cd-015	IMB12-04BDSVC0S	1074364



Installation type	Sensing range $S_n$	Housing	Connection	Output function	Connection diagram	Type	Part no.
Non-flush	8 mm	Short-body	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB12-08NDSVU2K	1076281
		Standard	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB12-08NDSVU2S	1076278
			Male connector, M12, 4-pin	NO	Cd-015	IMB12-08NDSVC0S	1076277

**DC 3-wire**

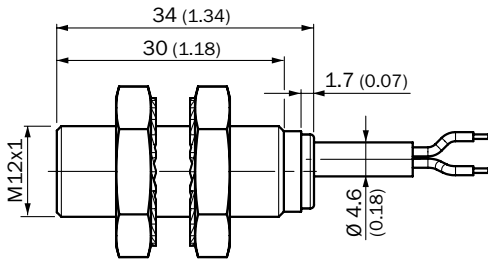
Installation type	Sensing range $S_n$	Housing	Connection	Output type	Output function	IO-Link	Connection diagram	Type	Part no.			
Flush	4 mm	Short-body	Cable, 3-wire, 2 m, PUR	NPN	NC	-	Cd-003	IMB12-04BNOVU2K	1072757			
					NO	-	Cd-001	IMB12-04BNSVU2K	1072756			
				PNP	NC	-	Cd-003	IMB12-04BPOVU2K	1072755			
			NO		✓	Cd-001	IMB12-04BPSVU2K	1072754				
			Male connector, M12, 4-pin	NPN	NC	-	Cd-008	IMB12-04BNOVC0K	1072749			
					NO	-	Cd-007	IMB12-04BNSVC0K	1070172			
		PNP		NC	-	Cd-008	IMB12-04BPOVC0K	1072748				
			NO	✓	Cd-007	IMB12-04BPSVC0K	1072747					
		Standard	Cable, 3-wire, 2 m, PUR	NPN	NC	-	Cd-003	IMB12-04BNOVU2S	1072742			
					NO	-	Cd-001	IMB12-04BNSVU2S	1072741			
				PNP	NC	-	Cd-003	IMB12-04BPOVU2S	1072765			
					NO	✓	Cd-001	IMB12-04BPSVU2S	1072455			
				Male connector, M12, 4-pin	NPN	NC	-	Cd-008	IMB12-04BNOVC0S	1072738		
						NO	-	Cd-007	IMB12-04BNSVC0S	1072737		
			PNP		NC	-	Cd-008	IMB12-04BPOVC0S	1072736			
				NO	✓	Cd-007	IMB12-04BPSVC0S	1072763				
			Non-flush	8 mm	Short-body	Cable, 3-wire, 2 m, PUR	NPN	NC	-	Cd-003	IMB12-08NNOVU2K	1072761
								NO	-	Cd-001	IMB12-08NNSVU2K	1072760
							PNP	NC	-	Cd-003	IMB12-08NPOVU2K	1072759
						NO		✓	Cd-001	IMB12-08NPSVU2K	1072758	
		Male connector, M12, 4-pin				NPN	NC	-	Cd-008	IMB12-08NNOVC0K	1072753	
							NO	-	Cd-007	IMB12-08NNSVC0K	1072752	
					PNP	NC	-	Cd-008	IMB12-08NPOVC0K	1072751		
		NO				✓	Cd-007	IMB12-08NPSVC0K	1072750			
Standard	Cable, 3-wire, 2 m, PUR	NPN			NC	-	Cd-003	IMB12-08NNOVU2S	1072746			
					NO	-	Cd-001	IMB12-08NNSVU2S	1072745			
		PNP			NC	-	Cd-003	IMB12-08NPOVU2S	1072744			
					NO	✓	Cd-001	IMB12-08NPSVU2S	1072743			
		Male connector, M12, 4-pin			NPN	NC	-	Cd-008	IMB12-08NNOVC0S	1072740		
						NO	-	Cd-007	IMB12-08NNSVC0S	1072764		
	PNP				NC	-	Cd-008	IMB12-08NPOVC0S	1072739			
		NO			✓	Cd-007	IMB12-08NPSVC0S	1070171				

DC 4-wire

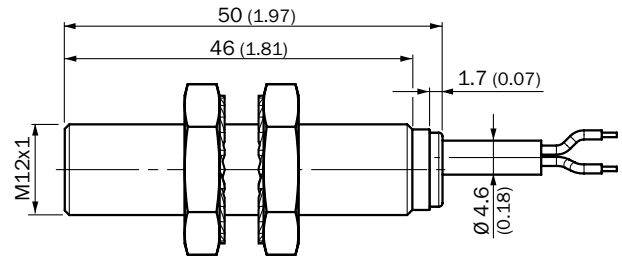
Installation type	Sensing range $S_n$	Housing	Connection	Output type	Output function	IO-Link	Connection diagram	Type	Part no.
Flush	4 mm	Short-body	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB12-04BNPVCOK	1074367
				PNP	Complementary	✓	Cd-006	IMB12-04BPPVCOK	1074366
		Standard	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB12-04BNPVCOS	1074361
				PNP	Complementary	✓	Cd-006	IMB12-04BPPVCOS	1074359
Non-flush	8 mm	Short-body	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB12-08NNPVCOK	1076280
				PNP	Complementary	✓	Cd-006	IMB12-08NPPVCOK	1076279
		Standard	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB12-08NNPVCOS	1074362
				PNP	Complementary	✓	Cd-006	IMB12-08NPPVCOS	1074360

Dimensional drawings (Dimensions in mm (inch))

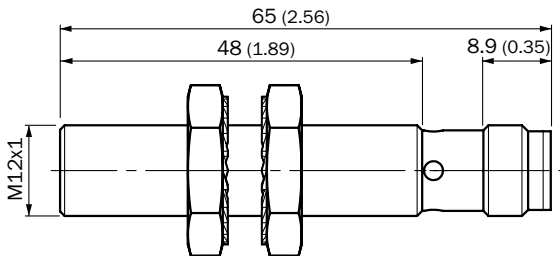
IMB12 Short-body housing, cable, flush



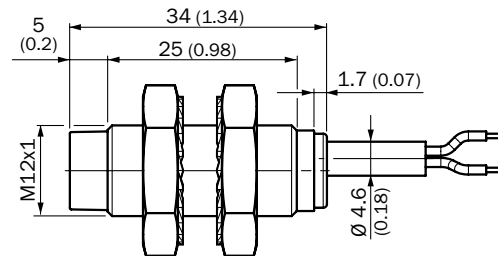
IMB12 standard, cable, flush



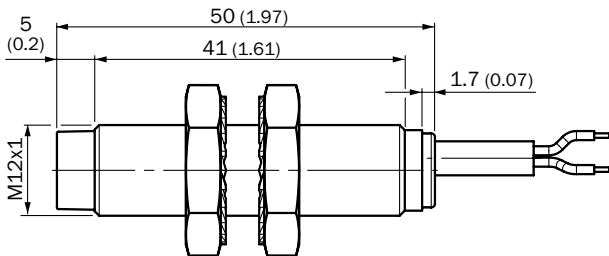
IMB12 Standard, connector, M12, flush



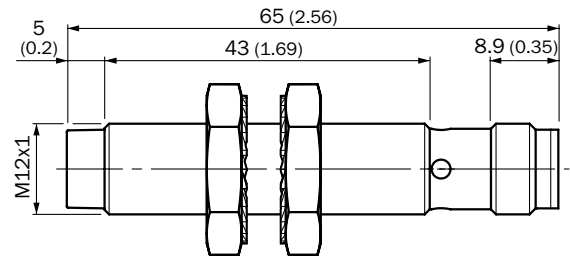
IMB12 Short-body housing, cable, non-flush



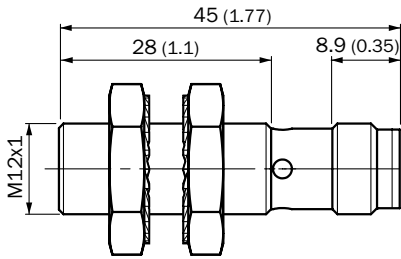
IMB12 Standard, cable, non-flush



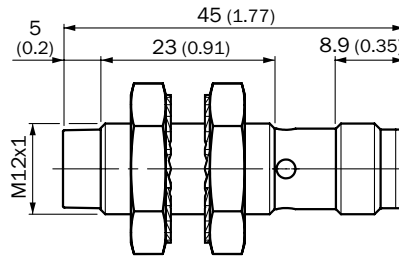
IMB12 Standard, connector M12, non-flush



IMB12 Short-body housing, connector M12, flush

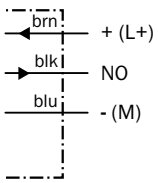


IMB12 Short-body housing, connector M12, non-flush

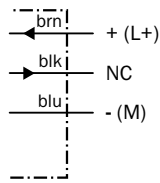


Connection diagram

Cd-001



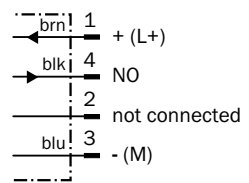
Cd-003



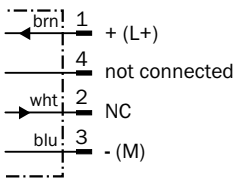
Cd-006



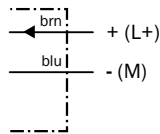
Cd-007



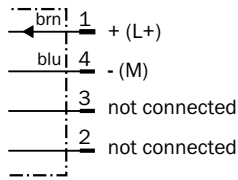
Cd-008



Cd-012

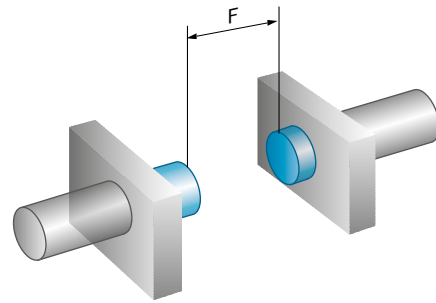
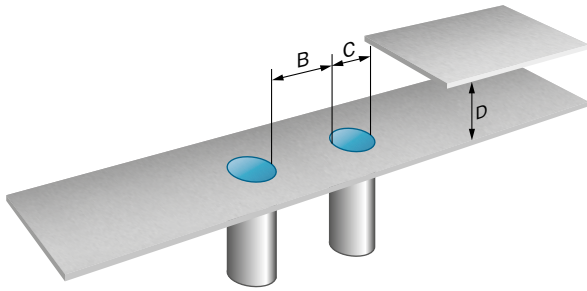


Cd-015

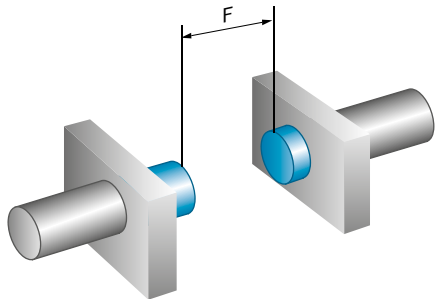
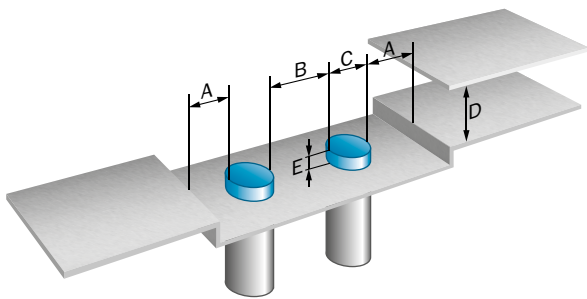


Installation note

Flush installation



Non-flush installation

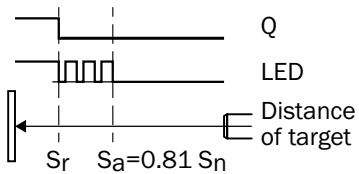


Installation note

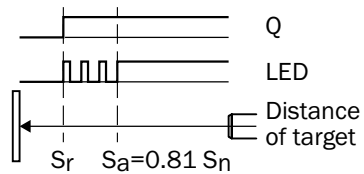
	Installation	Sensing range $S_n$	A	B	C	D	E	F
IMB12-04Bxxxxxx	Flush	4 mm	-	12 mm	12 mm	12 mm	-	32 mm
IMB12-08Nxxxxxx	Non-flush	8 mm	12 mm	24 mm	12 mm	24 mm	16 mm	64 mm

Installation aid

Normally closed

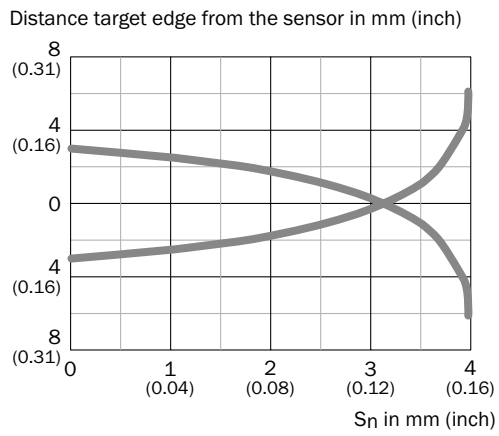


Normally open

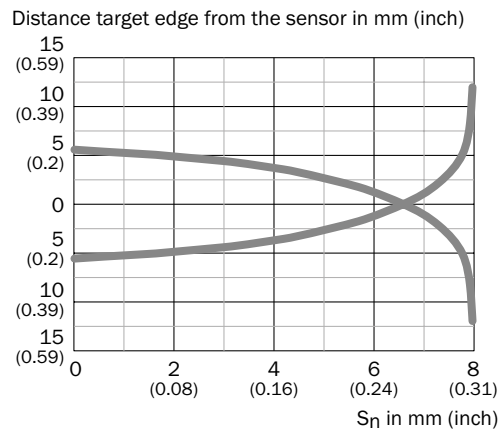


## Response curve

### Flush installation



### Non-flush installation



# THE RUGGED STANDARD FOR USE IN HARSH ENVIRONMENTS



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### Product description

The inductive IMB proximity sensor is a byword for reliability in harsh working conditions, whether it is in contact with cooling lubricants or being used outdoors. With its extended sensing ranges, made highly precise thanks to the use of SICK ASIC technology, the IMB ensures reliable, stable processes. What's more, its wide-ranging specification limits allow the IMB to be used in applications where specialist devices were once the only solution – a huge benefit when it

comes to product selection and warehousing. The visual adjustment indicator and self-locking nuts save time during commissioning and help cut down on errors. Communication via IO-Link is also possible, creating more flexibility and adding more functions for automation applications. With an extensive standard product portfolio available, even special devices can be put into action quickly and easily.

### At a glance

- Type M18
- Extended sensing ranges: 8 to 12 mm
- Electrical wiring: DC 2/3/4-wire
- Enclosure rating: IP 68, IP 69K
- Temperature range: -40 °C to 100 °C
- Rugged stainless steel housing, sensing face made of plastic (LCP)
- Visual installation aid, IO-Link-compatible
- Resistant to oils and cooling lubricants; suitable for use outdoors

### Your benefits

- Straightforward product selection as fewer sensor variants are required – one sensor suits a whole range of applications
- Stable processes thanks to extended, highly precise sensing ranges enabled through the use of the latest SICK ASIC technology
- Reduced machine downtimes thanks to longer sensor service life, even in harsh working conditions
- Quick and easy installation thanks to visual installation aid and self-locking nuts
- High degree of flexibility and communication options thanks to IO-Link
- Easy to implement customer-specific variants within the standard product portfolio

→ [www.mysick.com/en/IMB18](http://www.mysick.com/en/IMB18)

For more information, just 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.



## Detailed technical data

## Features

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Housing</b>	Cylindrical		
<b>Thread size</b>	M18 x 1		
<b>Sensing range <math>S_n</math></b>	Flush	8 mm	
	Non-flush	12 mm	
<b>Assured sensing range <math>S_a</math></b>	Flush	6.48 mm	
	Non-flush	9.72 mm	
<b>Installation type</b>	Flush / non-flush (depending on type)		
<b>Switching frequency</b>	1,000 Hz		
<b>Output type</b>	-	NPN / PNP (depending on type)	
<b>Output function</b>	NO	NC / NO (depending on type)	Complementary
<b>Electrical wiring</b>	DC 2-wire	DC 3-wire	DC 4-wire
<b>Enclosure rating</b>	IP 68 <sup>1)</sup> IP 69K <sup>2)</sup>		
<b>Special features</b>	Resistant against coolant lubricants, visual installation aid	Resistant against coolant lubricants, visual installation aid Capable of communication via IO-Link 1.0 (depending on type)	Resistant against coolant lubricants Capable of communication via IO-Link 1.0 (depending on type)

<sup>1)</sup> According to EN 60529.

<sup>2)</sup> According to ISO 20653:2013-03.

## Mechanics/electronics

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Supply voltage</b>	10 V DC ... 30 V DC		
<b>Ripple</b>	≤ 10 %		
<b>Voltage drop</b>	≤ 4 V <sup>1)</sup>	≤ 2 V <sup>2)</sup>	
	≤ 4.5 V <sup>2)</sup>		
<b>Current consumption</b>	-	≤ 10 mA <sup>3)</sup>	
<b>Time delay before availability</b>	≤ 100 ms		
<b>Hysteresis</b>	3 % ... 20 %		
<b>Repeatability <sup>4) 5)</sup></b>	≤ 2 %		
<b>Temperature drift (of <math>S_n</math>)</b>	± 10 %		
<b>EMC</b>	According to EN 60947-5-2		
<b>Continuous current <math>I_a</math></b>	≤ 100 mA	≤ 200 mA	
<b>Off-state current</b>	Typ. 0.8 mA (≤ 1.2 mA at $U_b$ max and 100 ° C)	-	
<b>Load resistance, min.</b>	≥ 3 mA	-	

<sup>1)</sup> At  $I_a = 30$  mA.

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup>  $U_b$  and  $T_a$  constant.

<sup>5)</sup> Of  $S_r$ .

<sup>6)</sup> With gold plated contact pins.

<sup>7)</sup> Valid if toothed side of nut is used.

<sup>8)</sup> Reference voltage DC 50 V.

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Connection type</b>	Cable, 2 m, PUR Male connector, M12 <sup>6)</sup> (depending on type)		Male connector, M12 <sup>6)</sup>
<b>Short-circuit protection</b>	✓		
<b>Reverse polarity protection</b>	✓		
<b>Power-up pulse protection</b>	-	✓	
<b>Power-up pulse</b>	≤ 5 ms	-	
<b>Shock and vibration resistance</b>	100 g / 11 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz, 1 mm / 55 z ... 500 Hz / 15 g		
<b>Ambient operating temperature</b>	-40 °C ... +100 °C		
<b>Housing material</b>	V2A (1.4305)		
<b>Sensing face material</b>	Plastic (LCP)		
<b>Tightening torque, max. <sup>7)</sup></b>	Typ. 90 Nm		
<b>Protection class <sup>8)</sup></b>	II		

<sup>1)</sup> At  $I_a = 30$  mA.

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup>  $U_b$  and  $T_a$  constant.

<sup>5)</sup> Of Sr.

<sup>6)</sup> With gold plated contact pins.

<sup>7)</sup> Valid if toothed side of nut is used.

<sup>8)</sup> Reference voltage DC 50 V.

## Reduction factors

Note	The values are reference values which may vary	
<b>Stainless steel (V2A, 304)</b>	Flush	Approx. 0.55
	Non-flush	Approx. 0.7
<b>Aluminum (Al)</b>	Flush	Approx. 0.24
	Non-flush	Approx. 0.43
<b>Copper (Cu)</b>	Flush	Approx. 0.19
	Non-flush	Approx. 0.37
<b>Brass (Br)</b>	Flush	Approx. 0.24
	Non-flush	Approx. 0.43

## Ordering information

Other models → [www.mysick.com/en/IMB18](http://www.mysick.com/en/IMB18)

### DC 2-wire

Installation type	Sensing range $S_n$	Housing	Connection	Output function	Connection diagram	Type	Part no.
Flush	8 mm	Short-body	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB18-08BDSVU2K	1074380
		Standard	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB18-08BDSVU2S	1074374
			Male connector, M12, 4-pin	NO	Cd-015	IMB18-08BDSVC0S	1074373



Installation type	Sensing range $S_n$	Housing	Connection	Output function	Connection diagram	Type	Part no.
Non-flush	12 mm	Short-body	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB18-12NDSVU2K	1076283
		Standard	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB18-12NDSVU2S	1074375
			Male connector, M12, 4-pin	NO	Cd-015	IMB18-12NDSVC0S	1076282

**DC 3-wire**

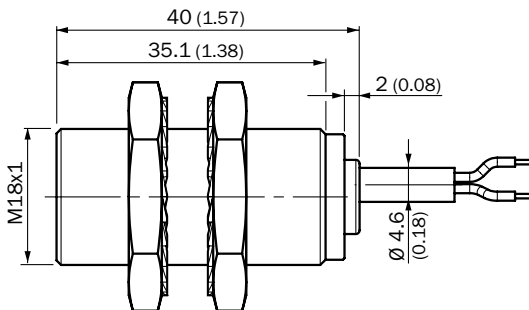
Installation type	Sensing range $S_n$	Housing	Connection	Output type	Output function	IO-Link	Connection diagram	Type	Part no.			
Flush	8 mm	Short-body	Cable, 3-wire, 2 m, PUR	NPN	NC	-	Cd-003	IMB18-08BNOVU2K	1072830			
					NO	-	Cd-001	IMB18-08BNSVU2K	1072829			
				PNP	NC	-	Cd-003	IMB18-08BPOVU2K	1072456			
			NO		✓	Cd-001	IMB18-08BPSVU2K	1072828				
			Male connector, M12, 4-pin	NPN	NC	-	Cd-008	IMB18-08BNOVC0K	1072823			
					NO	-	Cd-007	IMB18-08BNSVC0K	1070174			
		PNP		NC	-	Cd-008	IMB18-08BPOVC0K	1072822				
			NO	✓	Cd-007	IMB18-08BPSVC0K	1072821					
		Standard	Cable, 3-wire, 2 m, PUR	NPN	NC	-	Cd-003	IMB18-08BNOVU2S	1072816			
					NO	-	Cd-001	IMB18-08BNSVU2S	1072815			
				PNP	NC	-	Cd-003	IMB18-08BPOVU2S	1072814			
					NO	✓	Cd-001	IMB18-08BPSVU2S	1072813			
				Male connector, M12, 4-pin	NPN	NC	-	Cd-008	IMB18-08BNOVC0S	1072809		
						NO	-	Cd-007	IMB18-08BNSVC0S	1072808		
			PNP		NC	-	Cd-008	IMB18-08BPOVC0S	1072807			
				NO	✓	Cd-007	IMB18-08BPSVC0S	1072806				
			Non-flush	12 mm	Short-body	Cable, 3-wire, 2 m, PUR	NPN	NC	-	Cd-003	IMB18-12NNOVU2K	1072834
								NO	-	Cd-001	IMB18-12NNSVU2K	1072833
							PNP	NC	-	Cd-003	IMB18-12NPOVU2K	1072832
						NO		✓	Cd-001	IMB18-12NPSVU2K	1072831	
		Male connector, M12, 4-pin				NPN	NC	-	Cd-008	IMB18-12NNOVC0K	1072827	
							NO	-	Cd-007	IMB18-12NNSVC0K	1072826	
					PNP	NC	-	Cd-008	IMB18-12NPOVC0K	1072825		
		NO				✓	Cd-007	IMB18-12NPSVC0K	1072824			
Standard	Cable, 3-wire, 2 m, PUR	NPN			NC	-	Cd-003	IMB18-12NNOVU2S	1072820			
					NO	-	Cd-001	IMB18-12NNSVU2S	1072819			
		PNP			NC	-	Cd-003	IMB18-12NPOVU2S	1072818			
					NO	✓	Cd-001	IMB18-12NPSVU2S	1072817			
		Male connector, M12, 4-pin			NPN	NC	-	Cd-008	IMB18-12NNOVC0S	1072812		
						NO	-	Cd-007	IMB18-12NNSVC0S	1072811		
	PNP				NC	-	Cd-008	IMB18-12NPOVC0S	1072810			
		NO			✓	Cd-007	IMB18-12NPSVC0S	1070173				

DC 4-wire

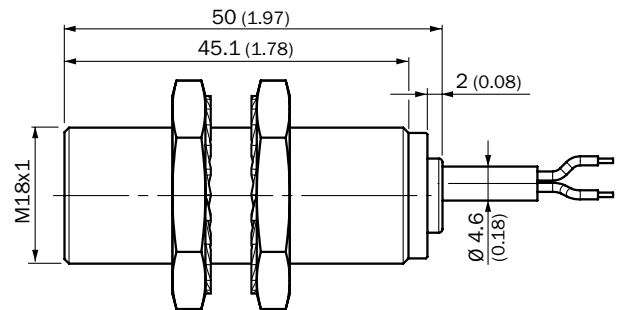
Installation type	Sensing range $S_n$	Housing	Connection	Output type	Output function	IO-Link	Connection diagram	Type	Part no.
Flush	8 mm	Short-body	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB18-08BNPVCOK	1074378
				PNP	Complementary	✓	Cd-006	IMB18-08BPPVCOK	1074376
		Standard	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB18-08BNPVCOS	1074371
				PNP	Complementary	✓	Cd-006	IMB18-08BPPVCOS	1074369
Non-flush	12 mm	Short-body	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB18-12NNPVCOK	1074379
				PNP	Complementary	✓	Cd-006	IMB18-12NPPVCOK	1074377
		Standard	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB18-12NNPVCOS	1074372
				PNP	Complementary	✓	Cd-006	IMB18-12NPPVCOS	1074370

Dimensional drawings (Dimensions in mm (inch))

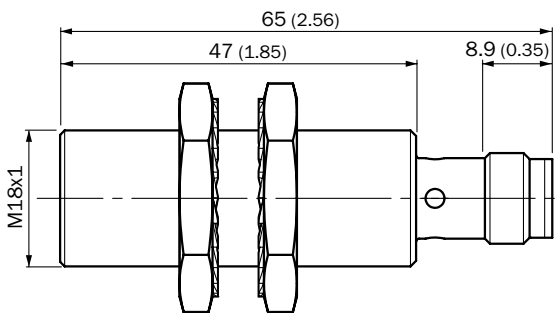
IMB18 Short-body housing, cable, flush



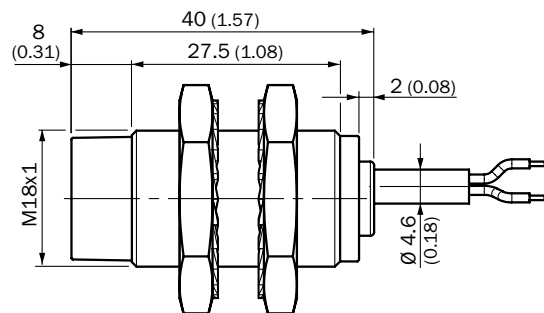
IMB18 Standard, cable, flush



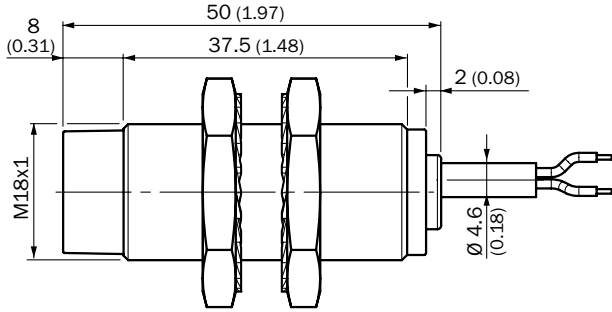
IMB18 Standard, connector, M12, flush



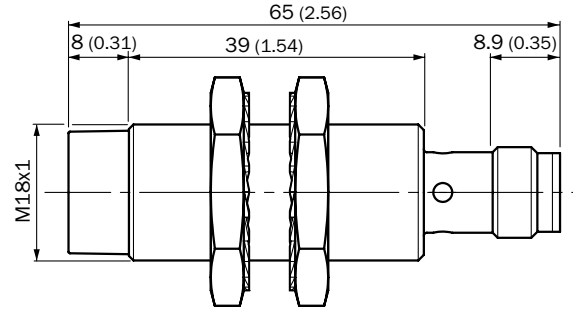
IMB18 Short-body housing, cable, non-flush



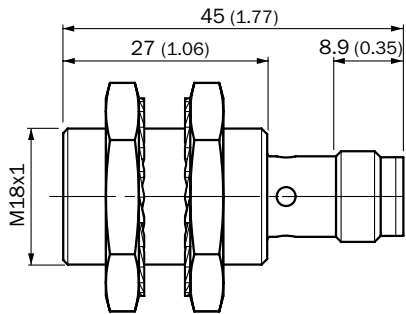
IMB18 Standard, cable, non-flush



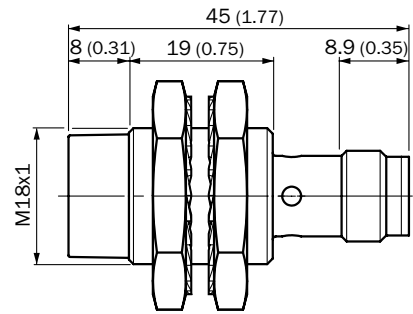
IMB18 Standard, connector M12, non-flush



IMB18 Short-body housing, connector M12, flush

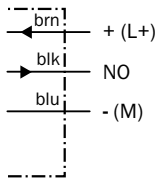


IMB18 Short-body housing, connector M12, non-flush

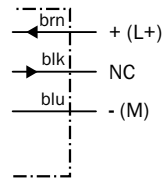


Connection diagram

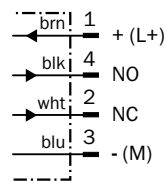
Cd-001



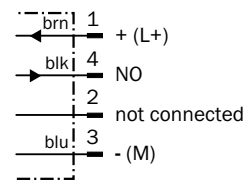
Cd-003



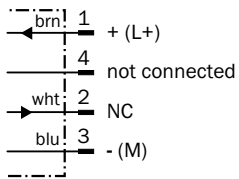
Cd-006



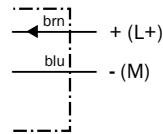
Cd-007



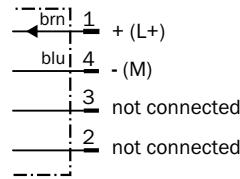
Cd-008



Cd-012

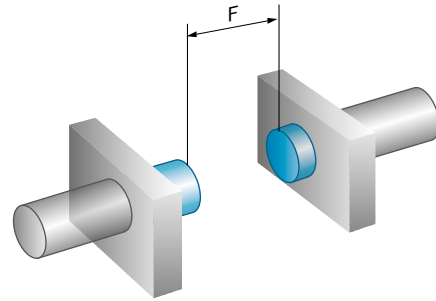
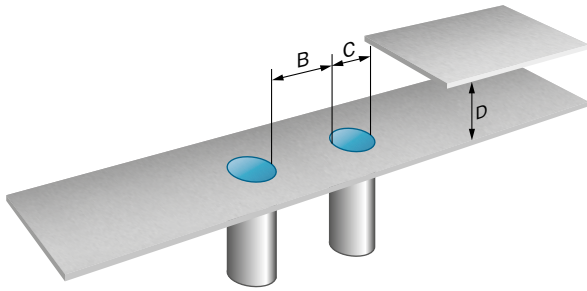


Cd-015

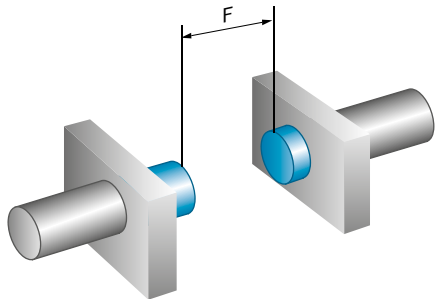
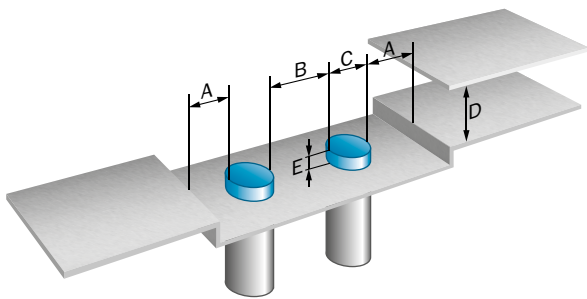


Installation note

Flush installation



Non-flush installation

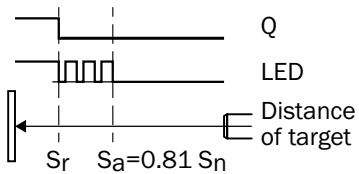


Installation note

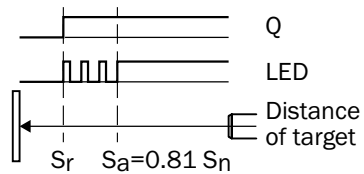
	Installation	Sensing range $S_n$	A	B	C	D	E	F
IMB18-08Bxxxxxx	Flush	8 mm	9 mm	18 mm	18 mm	24 mm	2 mm	64 mm
IMB18-12Nxxxxxx	Non-flush	12 mm	18 mm	36 mm	18 mm	34 mm	12 mm	96 mm

Installation aid

Normally closed

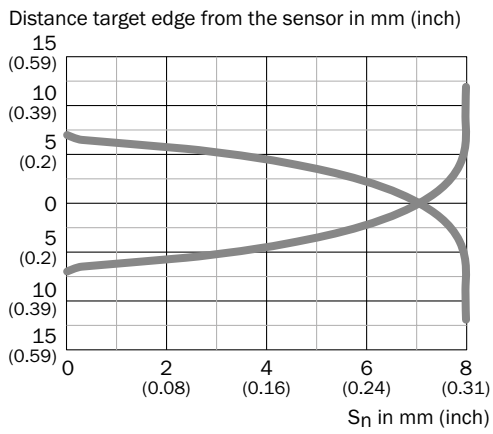


Normally open

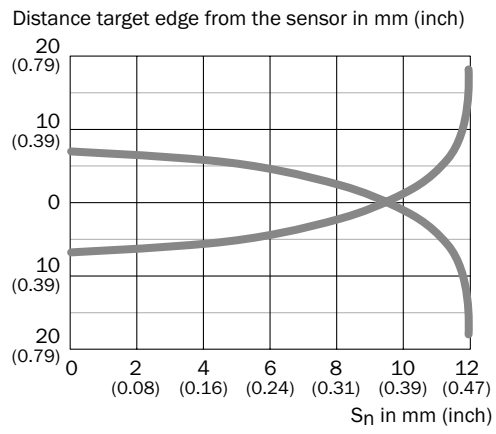


## Response curve

### Flush installation



### Non-flush installation



# THE RUGGED STANDARD FOR USE IN HARSH ENVIRONMENTS



## Additional information

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## Product description

The inductive IMB proximity sensor is a byword for reliability in harsh working conditions, whether it is in contact with cooling lubricants or being used outdoors. With its extended sensing ranges, made highly precise thanks to the use of SICK ASIC technology, the IMB ensures reliable, stable processes. What's more, its wide-ranging specification limits allow the IMB to be used in applications where specialist devices were once the only solution – a huge benefit when it

comes to product selection and warehousing. The visual adjustment indicator and self-locking nuts save time during commissioning and help cut down on errors. Communication via IO-Link is also possible, creating more flexibility and adding more functions for automation applications. With an extensive standard product portfolio available, even special devices can be put into action quickly and easily.

## At a glance

- Type M30
- Extended sensing ranges: 15 to 20 mm
- Electrical wiring: DC 2/3/4-wire
- Enclosure rating: IP 68, IP 69K
- Temperature range: -40 °C to 100 °C
- Rugged stainless steel housing, sensing face made of plastic (LCP)
- Visual installation aid, IO-Link-compatible
- Resistant to oils and cooling lubricants; suitable for use outdoors

## Your benefits

- Straightforward product selection as fewer sensor variants are required – one sensor suits a whole range of applications
- Stable processes thanks to extended, highly precise sensing ranges enabled through the use of the latest SICK ASIC technology
- Reduced machine downtimes thanks to longer sensor service life, even in harsh working conditions
- Quick and easy installation thanks to visual installation aid and self-locking nuts
- High degree of flexibility and communication options thanks to IO-Link
- Easy to implement customer-specific variants within the standard product portfolio

→ [www.mysick.com/en/IMB30](http://www.mysick.com/en/IMB30)

For more information, just 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.



## Detailed technical data

## Features

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Housing</b>	Cylindrical		
<b>Thread size</b>	M30 x 1.5		
<b>Sensing range <math>S_n</math></b>	Flush 15 mm Non-flush 20 mm		
<b>Assured sensing range <math>S_a</math></b>	Flush 12.15 mm Non-flush 16.2 mm		
<b>Installation type</b>	Flush / non-flush (depending on type)		
<b>Switching frequency</b>	500 Hz		
<b>Output type</b>	-	NPN / PNP (depending on type)	
<b>Output function</b>	NO	NC / NO (depending on type)	Complementary
<b>Electrical wiring</b>	DC 2-wire	DC 3-wire	DC 4-wire
<b>Enclosure rating</b>	IP 68 <sup>1)</sup> IP 69K <sup>2)</sup>		
<b>Special features</b>	Resistant against coolant lubricants, visual installation aid	Resistant against coolant lubricants, visual installation aid Capable of communication via IO-Link 1.0 (depending on type)	Resistant against coolant lubricants Capable of communication via IO-Link 1.0 (depending on type)

<sup>1)</sup> According to EN 60529.

<sup>2)</sup> According to ISO 20653:2013-03.

## Mechanics/electronics

	DC 2-wire	DC 3-wire	DC 4-wire
<b>Supply voltage</b>	10 V DC ... 30 V DC		
<b>Ripple</b>	≤ 10 %		
<b>Voltage drop</b>	≤ 4 V <sup>1)</sup> ≤ 4.5 V <sup>2)</sup>	≤ 2 V <sup>2)</sup>	
<b>Current consumption</b>	-	≤ 10 mA <sup>3)</sup>	
<b>Time delay before availability</b>	≤ 100 ms		
<b>Hysteresis</b>	3 % ... 20 %		
<b>Repeatability <sup>4) 5)</sup></b>	≤ 2 %		
<b>Temperature drift (of <math>S_n</math>)</b>	± 10 %		
<b>EMC</b>	According to EN 60947-5-2		
<b>Continuous current <math>I_a</math></b>	≤ 100 mA	≤ 200 mA	
<b>Off-state current</b>	Typ. 0.8 mA (≤ 1.2 mA at $U_b$ max and 100 ° C)	-	
<b>Load resistance, min.</b>	≥ 3 mA	-	
<b>Connection type</b>	Cable, 2 m, PUR / Male connector, M12 <sup>6)</sup> (depending on type)		

<sup>1)</sup> At  $I_a = 30$  mA.

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup>  $U_b$  and  $T_a$  constant.

<sup>5)</sup> Of  $S_r$ .

<sup>6)</sup> With gold plated contact pins.

<sup>7)</sup> Valid if toothed side of nut is used.

<sup>8)</sup> Reference voltage DC 50 V.

	DC 2-wire	DC 3-wire	DC 4-wire
Short-circuit protection	✓		
Reverse polarity protection	✓		
Power-up pulse protection	-	✓	
Power-up pulse	≤ 5 ms	-	≤ 5 ms
Shock and vibration resistance	100 g / 11 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz, 1 mm / 55 z ... 500 Hz / 15 g		
Ambient operating temperature	-40 °C ... +100 °C		
Housing material	V2A (1.4305)		
Sensing face material	Plastic (LCP)		
Tightening torque, max. <sup>7)</sup>	Typ. 100 Nm		
Protection class <sup>8)</sup>	II		

<sup>1)</sup> At  $I_a = 30$  mA.

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup>  $U_b$  and  $T_a$  constant.

<sup>5)</sup> Of Sr.

<sup>6)</sup> With gold plated contact pins.

<sup>7)</sup> Valid if toothed side of nut is used.

<sup>8)</sup> Reference voltage DC 50 V.

## Reduction factors

Note	The values are reference values which may vary	
Stainless steel (V2A, 304)	Flush	Approx. 0.62
	Non-flush	Approx. 0.78
Aluminum (Al)	Flush	Approx. 0.26
	Non-flush	Approx. 0.44
Copper (Cu)	Flush	Approx. 0.17
	Non-flush	Approx. 0.36
Brass (Br)	Flush	Approx. 0.27
	Non-flush	Approx. 0.46

## Ordering information

Other models → [www.mysick.com/en/IMB30](http://www.mysick.com/en/IMB30)

### DC 2-wire

Installation type	Sensing range $S_n$	Housing	Connection	Output function	Connection diagram	Type	Part no.
Flush	15 mm	Short-body	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB30-15BDSVU2K	1074420
		Standard	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB30-15BDSVU2S	1074413
			Male connector, M12, 4-pin	NO	Cd-015	IMB30-15BDSVC0S	1074410
Non-flush	20 mm	Short-body	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB30-20NDSVU2K	1076284
		Standard	Cable, 2-wire, 2 m, PUR	NO	Cd-012	IMB30-20NDSVU2S	1074414
			Male connector, M12, 4-pin	NO	Cd-015	IMB30-20NDSVC0S	1076291



DC 3-wire

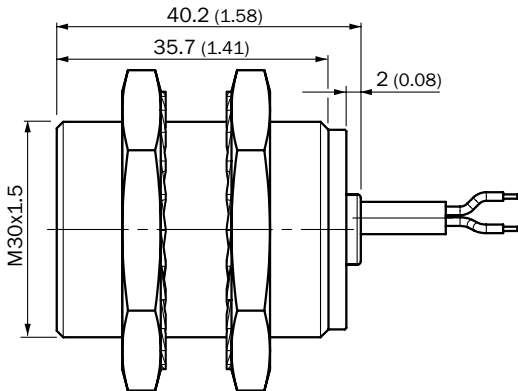
Installation type	Sensing range S <sub>n</sub>	Housing	Connection	Output type	Output function	IO-Link	Connection diagram	Type	Part no.		
Flush	15 mm	Short-body	Cable, 3-wire, 2 m, PUR	NPN	NC	-	Cd-003	IMB30-15BNOVU2K	1072858		
					NO	-	Cd-001	IMB30-15BNSVU2K	1072857		
				PNP	NC	-	Cd-003	IMB30-15BPOVU2K	1072856		
					NO	✓	Cd-001	IMB30-15BPSVU2K	1072457		
				NPN	NC	-	Cd-008	IMB30-15BNOVC0K	1072851		
					NO	-	Cd-007	IMB30-15BNSVC0K	1072850		
			PNP	NC	-	Cd-008	IMB30-15BPOVC0K	1072849			
				NO	✓	Cd-007	IMB30-15BPSVC0K	1070176			
			Standard	Cable, 3-wire, 2 m, PUR	NPN	NC	-	Cd-003	IMB30-15BNOVU2S	1072844	
						NO	-	Cd-001	IMB30-15BNSVU2S	1072843	
					PNP	NC	-	Cd-003	IMB30-15BPOVU2S	1072842	
						NO	✓	Cd-001	IMB30-15BPSVU2S	1072841	
		NPN			NC	-	Cd-008	IMB30-15BNOVC0S	1072837		
					NO	-	Cd-007	IMB30-15BNSVC0S	1072836		
		PNP	NC	-	Cd-008	IMB30-15BPOVC0S	1072835				
			NO	✓	Cd-007	IMB30-15BPSVC0S	1072602				
		Non-flush	20 mm	Short-body	Cable, 3-wire, 2 m, PUR	NPN	NC	-	Cd-003	IMB30-20NNOVU2K	1072862
							NO	-	Cd-001	IMB30-20NNSVU2K	1072861
						PNP	NC	-	Cd-003	IMB30-20NPOVU2K	1072860
							NO	✓	Cd-001	IMB30-20NPSVU2K	1072859
						NPN	NC	-	Cd-008	IMB30-20NNOVC0K	1072855
							NO	-	Cd-007	IMB30-20NNSVC0K	1072854
					PNP	NC	-	Cd-008	IMB30-20NPOVC0K	1072853	
						NO	✓	Cd-007	IMB30-20NPSVC0K	1072852	
Standard	Cable, 3-wire, 2 m, PUR				NPN	NC	-	Cd-003	IMB30-20NNOVU2S	1072848	
						NO	-	Cd-001	IMB30-20NNSVU2S	1072847	
					PNP	NC	-	Cd-003	IMB30-20NPOVU2S	1072846	
						NO	✓	Cd-001	IMB30-20NPSVU2S	1072845	
				NPN	NC	-	Cd-008	IMB30-20NNOVC0S	1072840		
					NO	-	Cd-007	IMB30-20NNSVC0S	1070175		
PNP	NC			-	Cd-008	IMB30-20NPOVC0S	1072839				
	NO			✓	Cd-007	IMB30-20NPSVC0S	1072838				

DC 4-wire

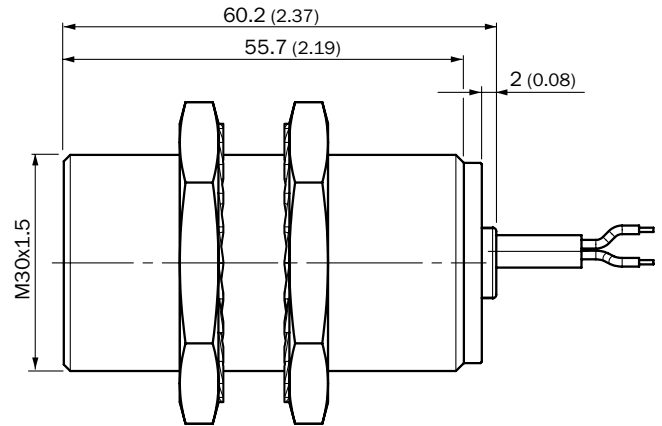
Installation type	Sensing range $S_n$	Housing	Connection	Output type	Output function	IO-Link	Connection diagram	Type	Part no.	
Flush	15 mm	Short-body	Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB30-15BNPVCOK	1074417	
				PNP	Complementary	✓	Cd-006	IMB30-15BPPVCOK	1074406	
		Standard	Cable, 4-wire, 2 m, PUR	PNP	Complementary	✓	Cd-005	IMB30-15BPPVU2S	1074415	
				Male connector, M12, 4-pin	NPN	Complementary	-	Cd-006	IMB30-15BNPVCOS	1074408
					PNP	Complementary	✓	Cd-006	IMB30-15BPPVCOS	1074411
				Non-flush	20 mm	Short-body	Male connector, M12, 4-pin	NPN	Complementary	-
PNP	Complementary	✓	Cd-006					IMB30-20NPPVCOK	1074416	
Standard	Male connector, M12, 4-pin	NPN	Complementary			-	Cd-006	IMB30-20NNPVCOS	1074409	
		PNP	Complementary			✓	Cd-006	IMB30-20NPPVCOS	1074407	

Dimensional drawings (Dimensions in mm (inch))

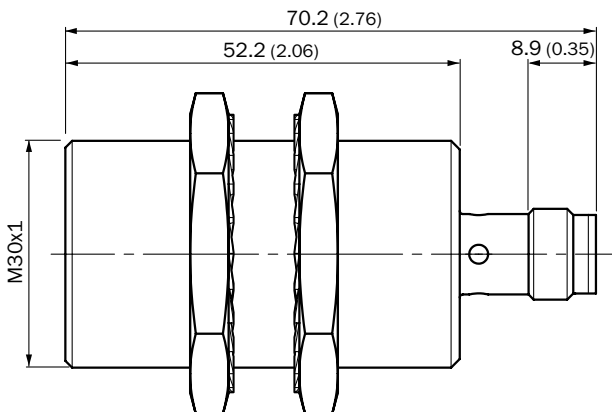
IMB30 Short-body housing, cable, flush



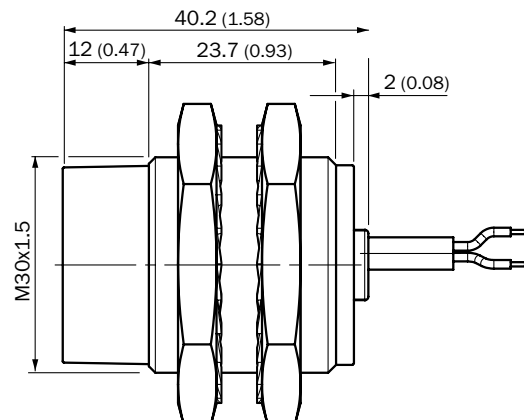
IMB30 Standard, cable, flush



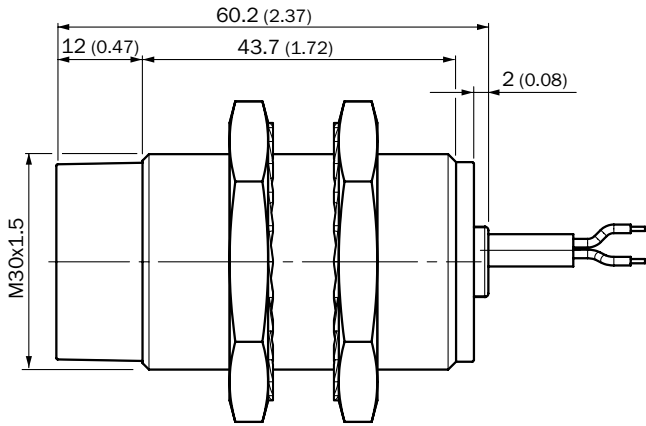
IMB30 Standard, connector, M12, flush



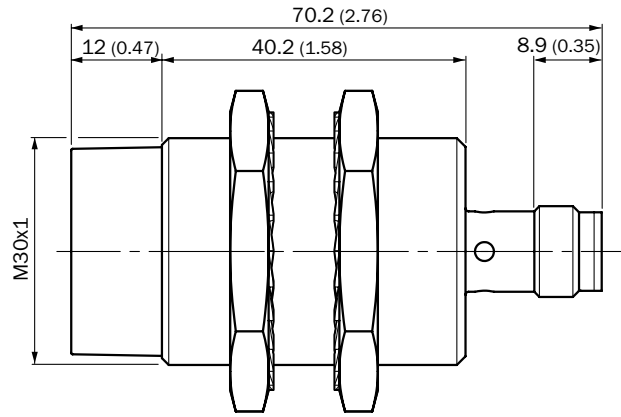
IMB30 Short-body housing, cable, non-flush



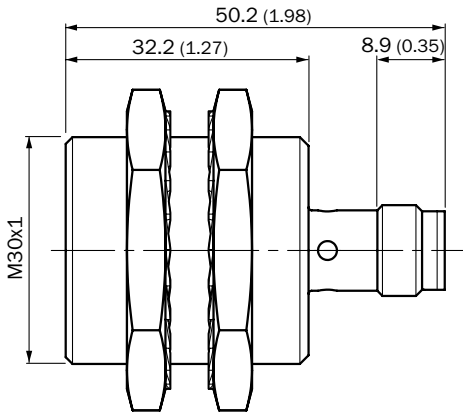
IMB30 Standard, cable, non-flush



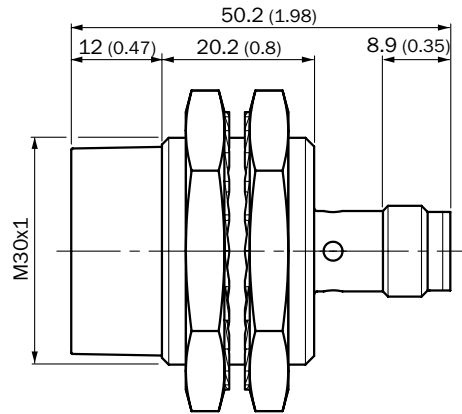
IMB30 Standard, connector M12, non-flush



IMB30 Short-body housing, connector M12, flush

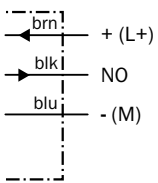


IMB30 Short-body housing, connector M12, non-flush

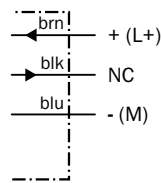


Connection diagram

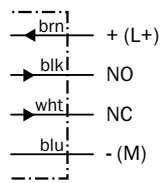
Cd-001



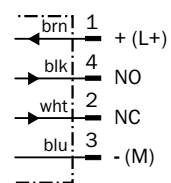
Cd-003



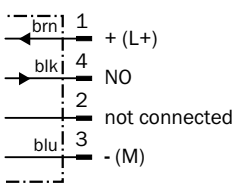
Cd-005



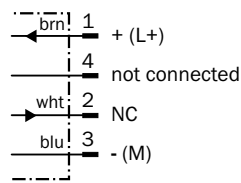
Cd-006



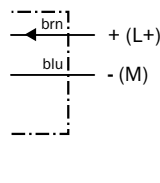
Cd-007



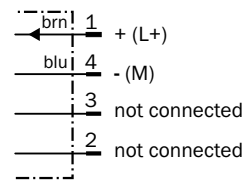
Cd-008



Cd-012

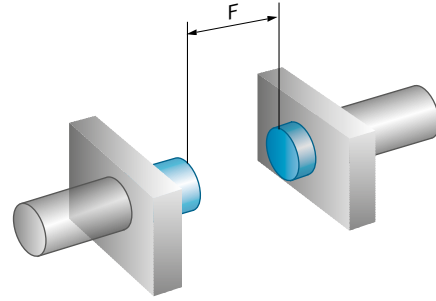
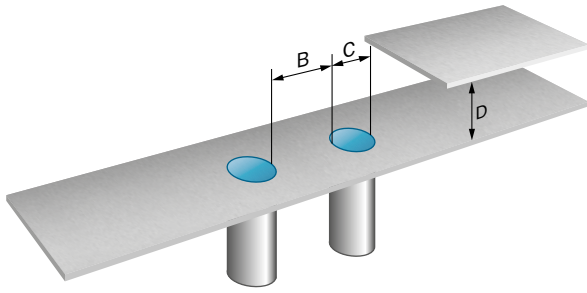


Cd-015

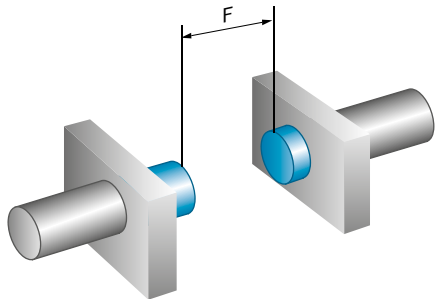
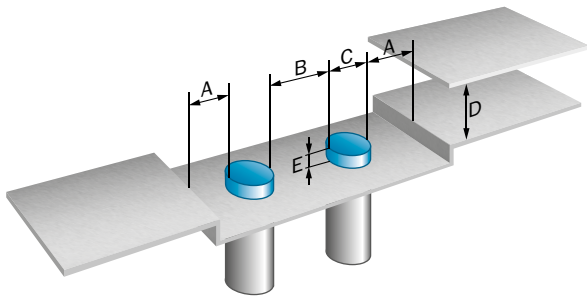


Installation note

Flush installation



Non-flush installation

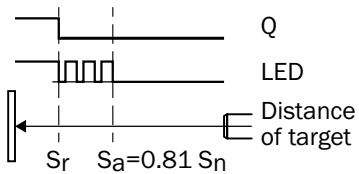


Installation note

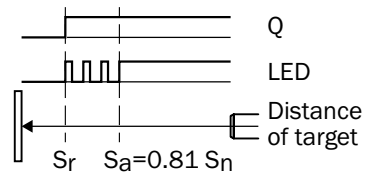
	Installation	Sensing range $S_n$	A	B	C	D	E	F
IMB30-15Bxxxxxx	Flush	15 mm	-	40 mm	30 mm	45 mm	-	120 mm
IMB30-20Nxxxxxx	Non-flush	20 mm	20 mm	62 mm	30 mm	60 mm	20 mm	160 mm

Installation aid

Normally closed

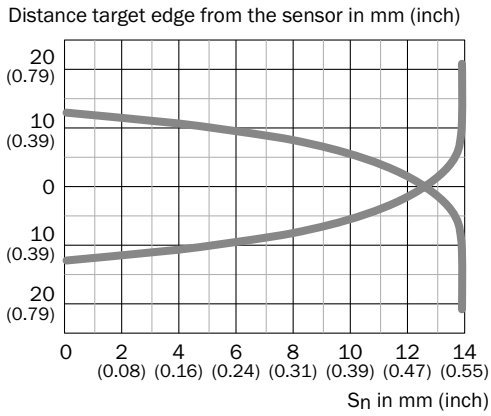


Normally open

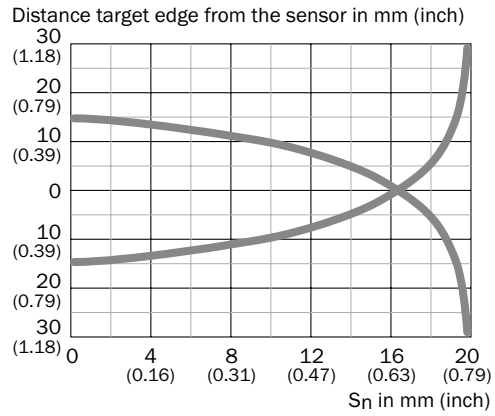


Response curve

Flush installation











Non-flush installation



Mounting systems

Universal bar clamp systems

Figure	Material	Description	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Zinc diecast	Universal bar clamp for mounting bars with 12 mm diameter	BEF-KHS-KH3	5322626	●	●	●	●
	Stainless steel V2A (1.4301)	Universal clamp bracket for mounting bars with 12 mm diameter	BEF-KHS-KH3N	5322627	●	●	●	●
	Zinc plated steel (sheet), Diecast zinc (clamp)	Plate N05 for universal clamp bracket, M12	BEF-KHS-N05	2051611	-	●	-	-
	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	Plate N05N for universal clamp bracket, M12	BEF-KHS-N05N	2051621	-	●	-	-
	Zinc plated steel (sheet), Diecast zinc (clamp)	Plate N06 for universal clamp bracket, M18	BEF-KHS-N06	2051612	-	-	●	-
	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	Plate N06N for universal clamp bracket, M18	BEF-KHS-N06N	2051622	-	-	●	-
	Zinc plated steel (sheet), Diecast zinc (clamp)	Plate N10 for universal clamp bracket, M30	BEF-KHS-N10	2062372	-	-	-	●
	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	Plate N11N for universal clamp bracket	BEF-KHS-N11N	2071081	●	●	●	●
	Steel, zinc coated	Mounting bar, straight, 200 mm, steel	BEF-MS12G-A	4056054	●	●	●	●
		Mounting bar, straight, 300 mm, steel	BEF-MS12G-B	4056055	●	●	●	●
	Stainless steel (1.4571)	Mounting bar, straight, 200 mm, stainless steel	BEF-MS12G-NA	4058914	●	●	●	●
		Mounting bar, straight, 300 mm, stainless steel	BEF-MS12G-NB	4058915	●	●	●	●
	Steel, zinc coated	Mounting bar, L-shaped, 150 mm x 150 mm, steel	BEF-MS12L-A	4056052	●	●	●	●
		Mounting bar, L-shaped, 250 x 250 mm, steel	BEF-MS12L-B	4056053	●	●	●	●
	Stainless steel (1.4571)	Mounting bar, Z-shaped, 150 mm x 70 mm x 150 mm, stainless steel	BEF-MS12Z-NA	4058916	●	●	●	●
		Mounting bar, Z-shaped, 150 mm x 70 mm x 250 mm, stainless steel	BEF-MS12Z-NB	4058917	●	●	●	●

Mounting brackets














Figure	Material	Description	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Stainless steel	Mounting plate for M12 housing	BEF-WG-M12N	5320950	-	●	-	-

Figure	Material	Description	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Stainless steel	Mounting plate for M18 housing	BEF-WG-M18N	5320948	-	-	●	-
		Mounting plate for M8 sensors	BEF-WG-M08	5321722	●	-	-	-
	Steel, zinc coated	Mounting plate for M12 sensors	BEF-WG-M12	5321869	-	●	-	-
		Mounting plate for M18 sensors	BEF-WG-M18	5321870	-	-	●	-
		Mounting plate for M30 sensors	BEF-WG-M30	5321871	-	-	-	●

**Mounting plates**

Figure	Material	Description	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Stainless steel	Mounting bracket for M12 housing	BEF-WN-M12N	5320949	-	●	-	-
		Mounting bracket for M18 housing	BEF-WN-M18N	5320947	-	-	●	-
		Mounting bracket, M8 thread	BEF-WN-M08	5321721	●	-	-	-
		Mounting bracket, M12 thread	BEF-WN-M12	5308447	-	●	-	-
		Mounting bracket, M18 thread	BEF-WN-M18	5308446	-	-	●	-
		Mounting bracket, M30 thread	BEF-WN-M30	5308445	-	-	-	●




Alignment brackets

Figure	Material	Description	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Plastic	Mounting bracket with ball-and-socket	BEF-WN-M18-ST02	5312973	-	-	●	-

Connection systems



Connecting cables with female connector M8, 3-pin, PP, hygienic systems

- **Cable material:** PP
- **Connector material:** PP
- **Ambient operating temperature:** -40 °C ... +105 °C, stationary position; -25 °C ... +105 °C, flexible use
- **Locking nut material:** stainless steel (V4A/1.4404/316L)
- **Description:** Tested detergent: P3-topactive DES, P3-topactive 200, P3-topax 52, P3-topax 66 und P3-topax 91, Silicone-free, halogen-free, LABS-free

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Female connector, M8, 3-pin, straight, unshielded	Cable, open conductor heads	2 m, 3-wire	DOL-0803-G02MRN	6058504	●	-	-	-
			5 m, 3-wire	DOL-0803-G05MRN	6058505	●	-	-	-
			10 m, 3-wire	DOL-0803-G10MRN	6058506	●	-	-	-
	Female connector, M8, 3-pin, angled, unshielded, with LED	Cable, open conductor heads	2 m, 3-wire	DOL-0803-L02MRN	6058787	●	-	-	-
			5 m, 3-wire	DOL-0803-L05MRN	6058788	●	-	-	-
			10 m, 3-wire	DOL-0803-L10MRN	6058789	●	-	-	-
	Female connector, M8, 3-pin, angled, unshielded	Cable, open conductor heads	2 m, 3-wire	DOL-0803-W02MRN	6058507	●	-	-	-
			5 m, 3-wire	DOL-0803-W05MRN	6058508	●	-	-	-
			10 m, 3-wire	DOL-0803-W10MRN	6058509	●	-	-	-

Connecting cables with female connector M8, 3-pin, PUR, halogen-free, Oil / grease resistant




- **Cable material:** PUR, halogen-free
- **Connector material:** TPU
- **Ambient operating temperature:** -40 °C ... +80 °C, stationary position; -25 °C ... +80 °C, flexible use
- **Locking nut material:** zinc die-cast, nickel-plated

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Female connector, M8, 3-pin, straight, unshielded	Cable, open conductor heads	1 m, 3-wire	DOL-0803-G01MC	6036455	●	-	-	-
			2 m, 3-wire	DOL-0803-G02MC	6025888	●	-	-	-
			3 m, 3-wire	DOL-0803-G03MC	6038991	●	-	-	-
			5 m, 3-wire	DOL-0803-G05MC	6025889	●	-	-	-
			10 m, 3-wire	DOL-0803-G10MC	6025890	●	-	-	-
			20 m, 3-wire	DOL-0803-G20MC	6036456	●	-	-	-
	Female connector, M8, 3-pin, angled, unshielded	Cable, open conductor heads	2 m, 3-wire	DOL-0803-L02MC	6039080	●	-	-	-
			10 m, 3-wire	DOL-0803-L10MC	6039082	●	-	-	-
			2 m, 3-wire	DOL-0803-W02MC	6025891	●	-	-	-
			5 m, 3-wire	DOL-0803-W05MC	6025892	●	-	-	-
			10 m, 3-wire	DOL-0803-W10MC	6025893	●	-	-	-






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

- **Cable material:** PP
- **Connector material:** PP
- **Ambient operating temperature:** -40 °C ... +105 °C, stationary position; -25 °C ... +105 °C, flexible use
- **Locking nut material:** stainless steel (V4A/1.4404)
- **Description:** Tested detergent: P3-topactive DES, P3-topactive 200, P3-topax 52, P3-topax 66 und P3-topax 91, Silicone-free, halogen-free, LABS-free

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Female connector, M12, 4-pin, straight, unshielded	Cable, open conductor heads	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 3 LEDs, unshielded	Cable, open conductor heads	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, open conductor heads	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	●	●	●	●



Connecting cables with female connector M12, 4-pin, PUR, halogen-free, Oil / grease resistant

- **Cable material:** PUR, halogen-free
- **Connector material:** TPU
- **Ambient operating temperature:** -40 °C ... +80 °C, stationary position; -25 °C ... +80 °C, flexible use
- **Locking nut material:** zinc die-cast, nickel-plated

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Female connector, M12, 4-pin, straight, unshielded	Cable, open conductor heads	2 m, 4-wire	DOL-1204-G02MC	6025900	●	●	●	●
			5 m, 4-wire	DOL-1204-G05MC	6025901	●	●	●	●
			10 m, 4-wire	DOL-1204-G10MC	6025902	●	●	●	●
			15 m, 4-wire	DOL-1204-G15MC	6034749	●	●	●	●
			20 m, 4-wire	DOL-1204-G20MC	6034750	●	●	●	●
			25 m, 4-wire	DOL-1204-G25MC	6034751	●	●	●	●
	Female connector, M12, 4-pin, angled, with 3 LEDs, unshielded	Cable, open conductor heads	2 m, 4-wire	DOL-1204-L02MC	6039086	●	●	●	●
			5 m, 4-wire	DOL-1204-L05MC	6020398	●	●	●	●
			10 m, 4-wire	DOL-1204-L10MC	6039088	●	●	●	●
	Female connector, M12, 4-pin, angled, unshielded	Cable, open conductor heads	2 m, 4-wire	DOL-1204-W02MC	6025903	●	●	●	●
			5 m, 4-wire	DOL-1204-W05MC	6025904	●	●	●	●
			10 m, 4-wire	DOL-1204-W10MC	6025905	●	●	●	●
			15 m, 4-wire	DOL-1204-W15MC	6034752	●	●	●	●
			20 m, 4-wire	DOL-1204-W20MC	6034753	●	●	●	●
			25 m, 4-wire	DOL-1204-W25MC	6034754	●	●	●	●


Connecting cables with male connector M12, 4-pin, PUR, halogen-free, Oil / grease resistant

- **Cable material:** PUR, halogen-free
- **Connector material:** TPU
- **Ambient operating temperature:** -40 °C ... +80 °C, stationary position; -5 °C ... +80 °C, flexible use
- **Locking nut material:** zinc die-cast, nickel-plated

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Male connector, M12, 4-pin, straight, unshielded	Cable, open conductor heads	2 m, 4-wire	STL-1204-G02MC	6028077	●	●	●	●
			5 m, 4-wire	STL-1204-G05MC	6048170	●	●	●	●
			10 m, 4-wire	STL-1204-G10MC	6041750	●	●	●	●
			15 m, 4-wire	STL-1204-G15MC	6048171	●	●	●	●
	Male connector, M12, 4-pin, angled, unshielded	Cable, open conductor heads	5 m, 4-wire	STL-1204-W05MC	6037472	●	●	●	●
			15 m, 4-wire	STL-1204-W15MC	6037473	●	●	●	●



Connection cables with female connector and male connector M8, 3-pin, PUR, halogen-free, Oil / grease resistant

- **Cable material:** PUR, halogen-free
- **Connector material:** TPU
- **Ambient operating temperature:** -40 °C ... +80 °C, stationary position; -25 °C ... +80 °C, flexible use
- **Locking nut material:** zinc die-cast, nickel-plated

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Female connector, M8, 3-pin, straight, unshielded	Male connector, M8, 3-pin, straight	1 m, 3-wire	DSL-0803-G01MC	6029405	●	-	-	-
			2 m, 3-wire	DSL-0803-G02MC	6029406	●	-	-	-
			3 m, 3-wire	DSL-0803-G03MC	6037696	●	-	-	-
			5 m, 3-wire	DSL-0803-G05MC	6032730	●	-	-	-
			10 m, 3-wire	DSL-0803-G10MC	6032731	●	-	-	-
			20 m, 3-wire	DSL-0803-G20MC	6035805	●	-	-	-


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

- **Cable material:** PP
- **Connector material:** PP
- **Ambient operating temperature:** -40 °C ... +105 °C, stationary position; -25 °C ... +105 °C, flexible use
- **Locking nut material:** stainless steel (V4A/1.4404)
- **Description:** Tested detergent: P3-topactive DES, P3-topactive 200, P3-topax 52, P3-topax 66 und P3-topax 91, Silicone-free, halogen-free, LABS-free

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	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	●	●	●	●



Connection cables with female connector and male connector M12, 4-pin, PUR, halogen-free, Oil / grease resistant

- **Cable material:** PUR, halogen-free
- **Connector material:** TPU
- **Ambient operating temperature:** -40 °C ... +80 °C, stationary position; -25 °C ... +80 °C, flexible use
- **Locking nut material:** zinc die-cast, nickel-plated

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Female connector, M12, 4-pin, straight, unshielded	Male connector, M12, 4-pin, straight	5 m, 4-wire	DSL-1204-G05MC	6033245	●	●	●	●
			10 m, 4-wire	DSL-1204-G10MC	6033698	●	●	●	●



Female connectors (ready to assemble) M12, 4-pin, hygienic systems

- **Locking nut material:** stainless steel (V4A/1.4404/316L)

Figure	Connection type head A	Connection type head B	Connector material	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Female connector, M12, 4-pin, straight, unshielded	Screw-type terminals	PA	DOS-1204-GN	6028357	●	●	●	●
	Female connector, M12, 4-pin, angled, unshielded	Screw-type terminals	PBT	DOS-1204-WN	6028358	●	●	●	●

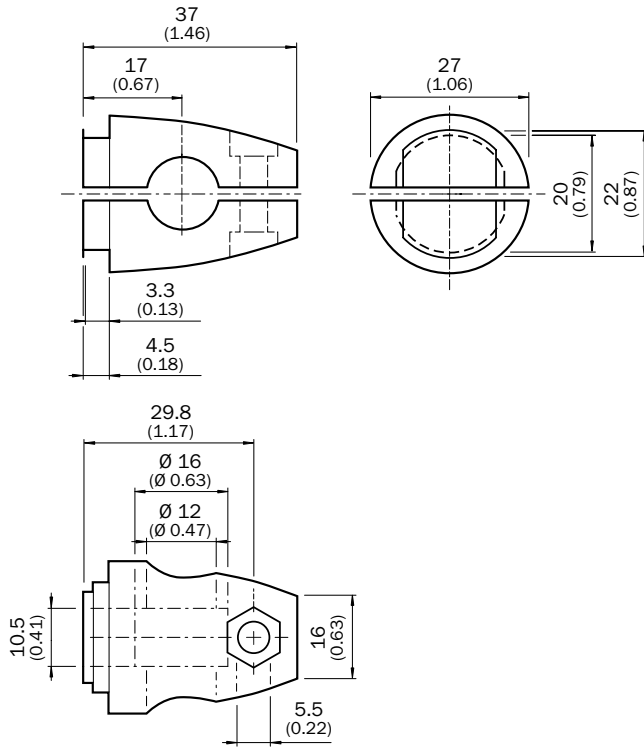
Male connectors (ready to assemble) M12, 4-pin, hygienic systems

- **Locking nut material:** stainless steel (V4A/1.4404)

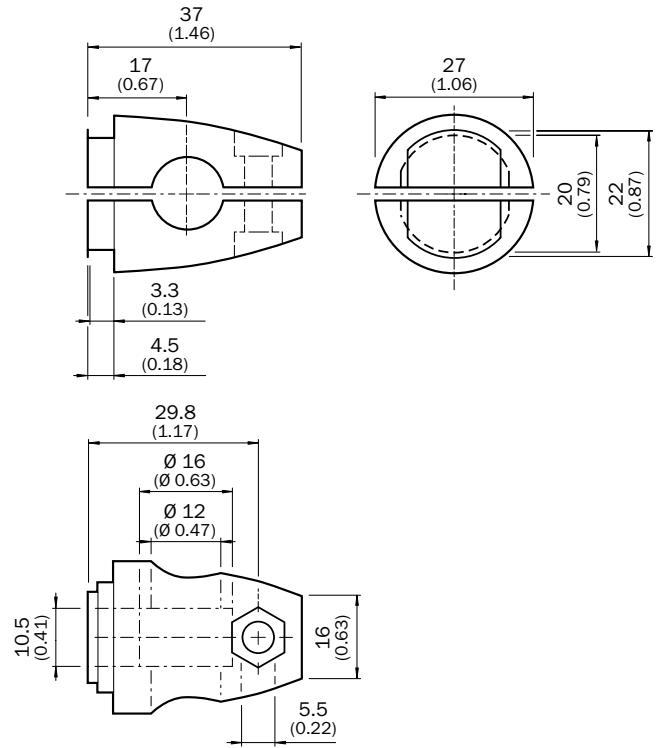
Figure	Connection type head A	Connection type head B	Connector material	Type	Part no.	IMB08	IMB12	IMB18	IMB30
	Male connector, M12, 4-pin, straight, unshielded	Screw-type terminals	PA	STE-1204-GN	6028359	●	●	●	●
			PBT	STE-1204-TN	6028360	●	●	●	●

Dimensional drawings Mounting systems

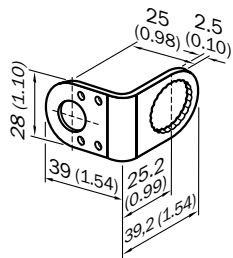
BEF-KHS-KH3



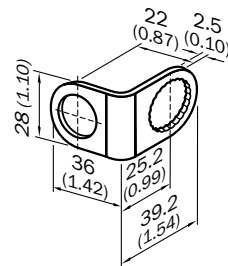
BEF-KHS-KH3N



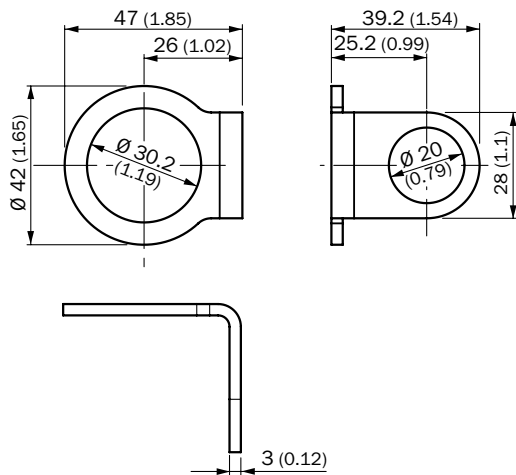
BEF-KHS-N05 / BEF-KHS-N05N



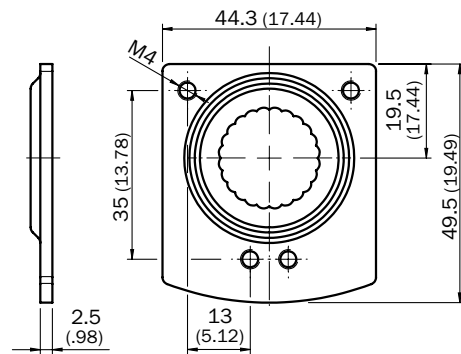
BEF-KHS-N06 / BEF-KHS-N06N



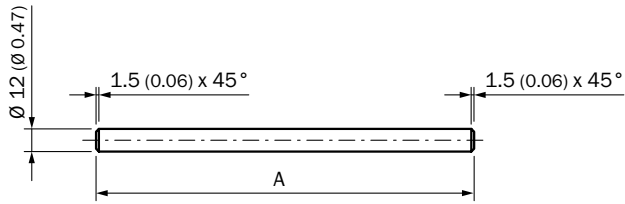
BEF-KHS-N10



BEF-KHS-N11N

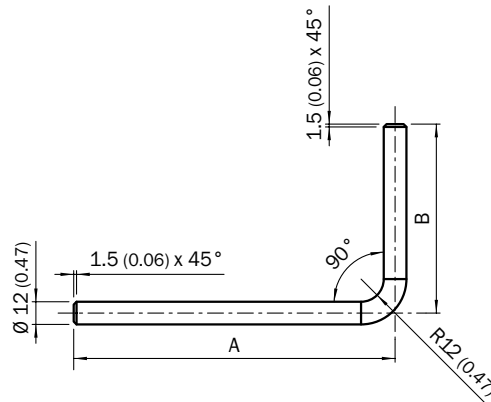


BEF-MS12G-(N)A / BEF-MS12G-(N)B



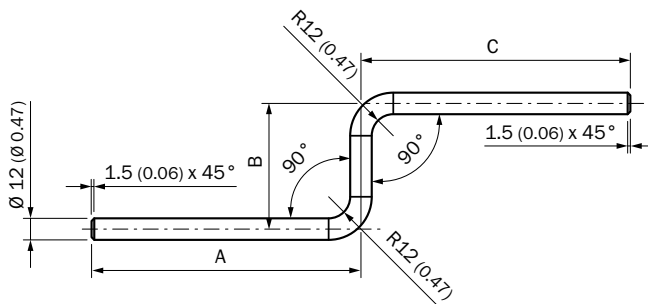
- ① BEF-MS12G-(N)A: A = 200 mm
- ② BEF-MS12G-(N)B: A = 300 mm

BEF-MS12L-A / BEF-MS12L-B



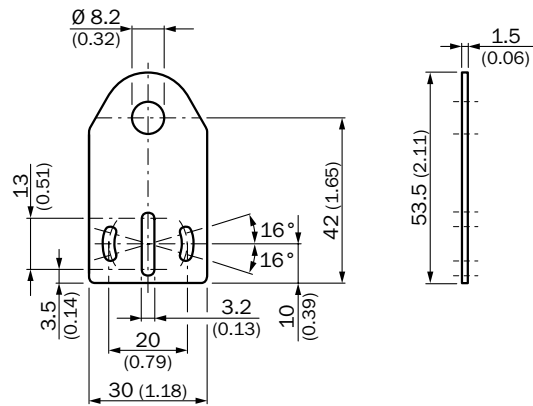
- ① BEF-MS12L-(N)A: A = 200 mm, B = 150 mm
- ② BEF-MS12L-(N)B: A = 250 mm, B = 250 mm

BEF-MS12Z-NA / BEF-MS12Z-NB

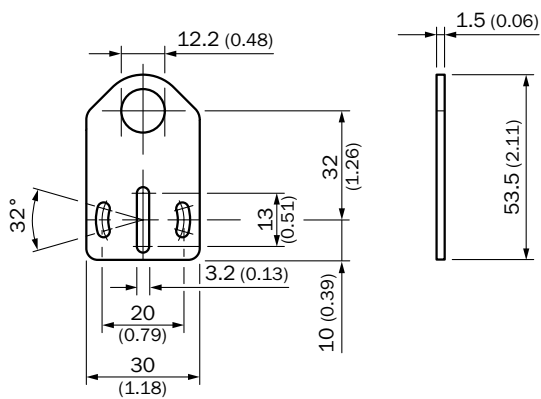


- ① BEF-MS12Z-(N)A: A = 150 mm, B = 70 mm, C = 150 mm
- ② BEF-MS12Z-(N)B: A = 150 mm, B = 70 mm, C = 250 mm

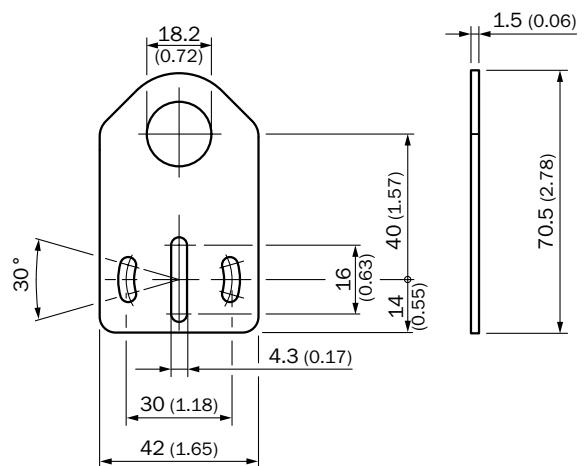
BEF-WG-M08



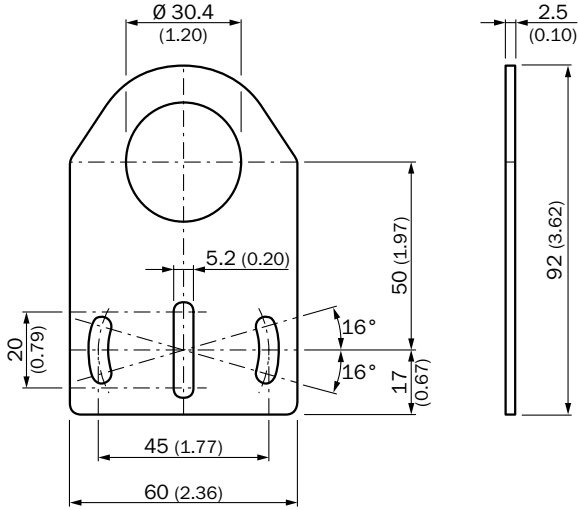
BEF-WG-M12 / BEF-WG-M12N



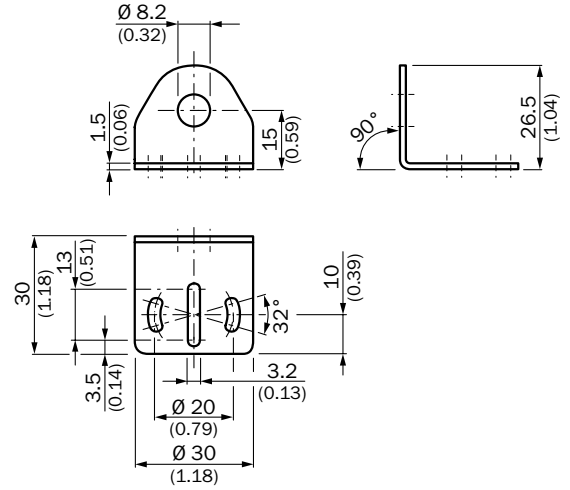
BEF-WG-M18 / BEF-WG-M18N



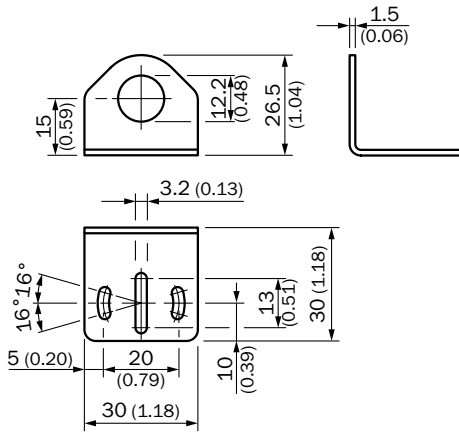
BEF-WG-M30



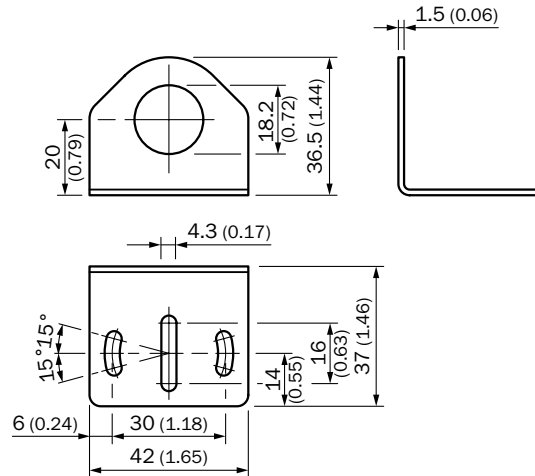
BEF-WN-M08



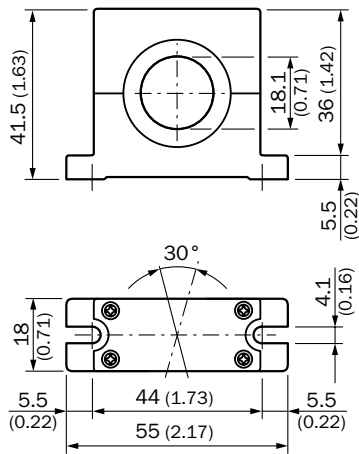
BEF-WN-M12 / BEF-WN-M12N



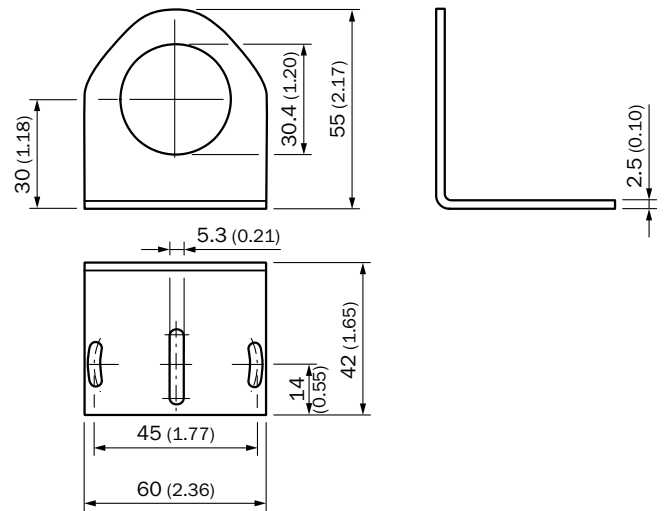
BEF-WN-M18 / BEF-WN-M18N



BEF-WN-M18-ST02

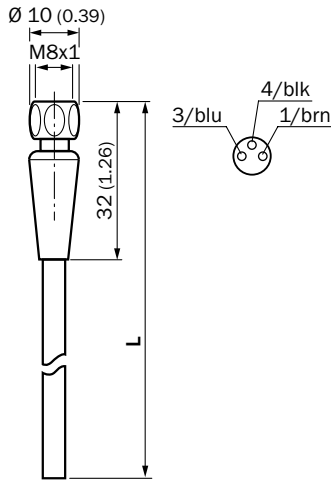


BEF-WN-M30

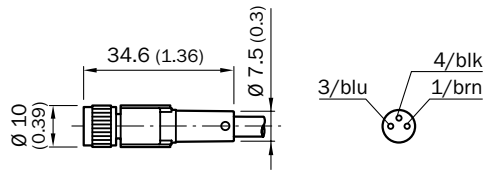


Dimensional drawings Connection systems

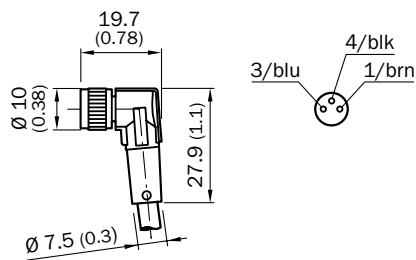
DOL-0803-GxxMRN



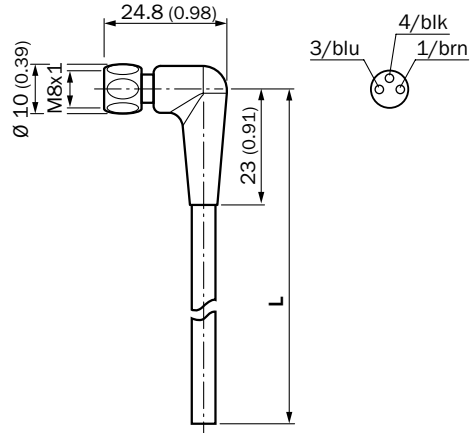
DOL-0803-GxxMC



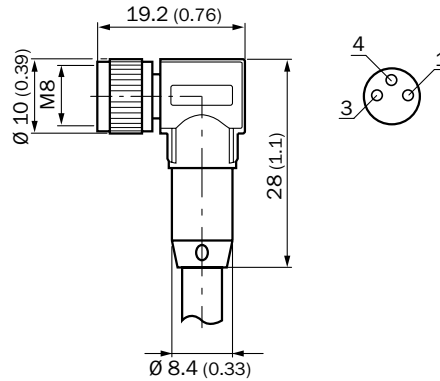
DOL-0803-WxxMC



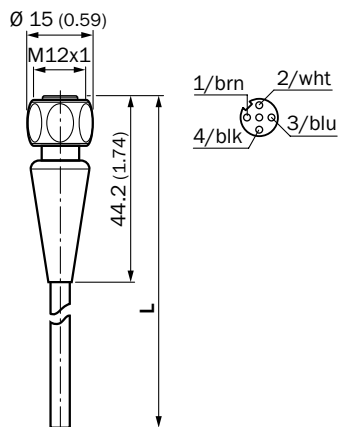
DOL-0803-L02MRN, DOL-0803-L05MRN, DOL-0803-L10MRN, DOL-0803-W02MRN, DOL-0803-W10MRN



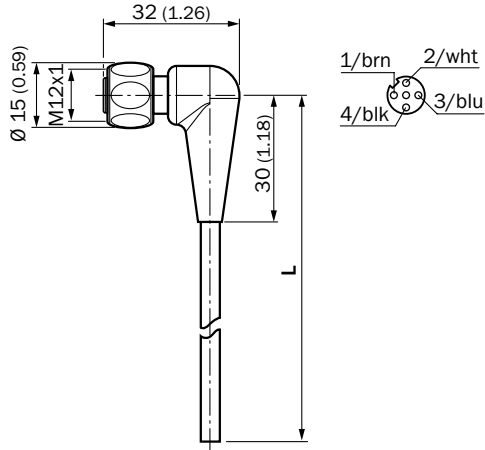
DOL-0803-L02MC  
DOL-0803-L10MC



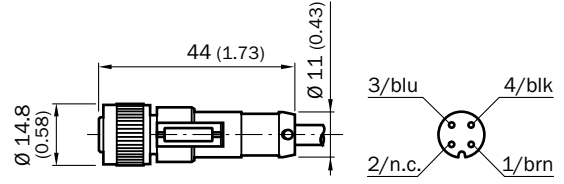
DOL-1204-G0xxRN



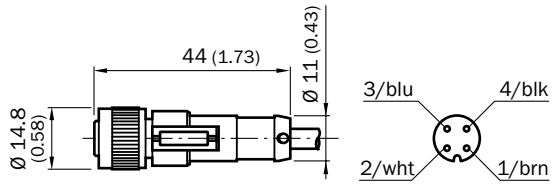
DOL-1204-LxxMRN, DOL-1204-WxxMRN



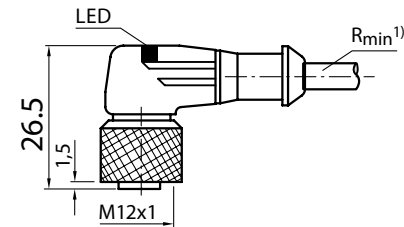
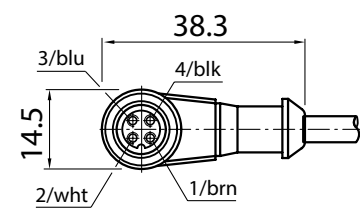
DOL-1204-GxxMC



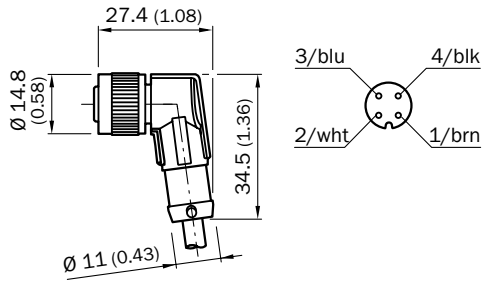
DOL-1204-GxxMC



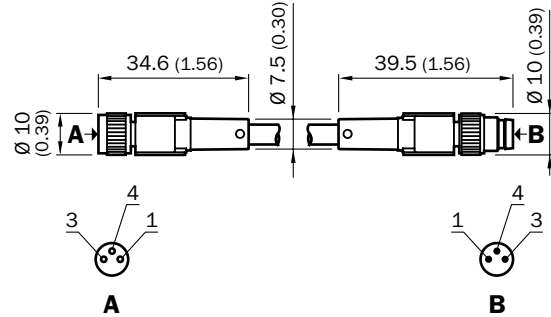
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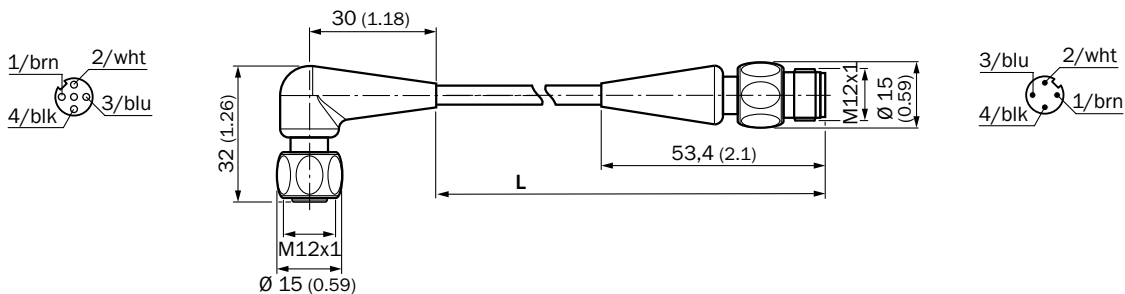
DOL-1204-WxxMC



DSL-0803-GxxMC

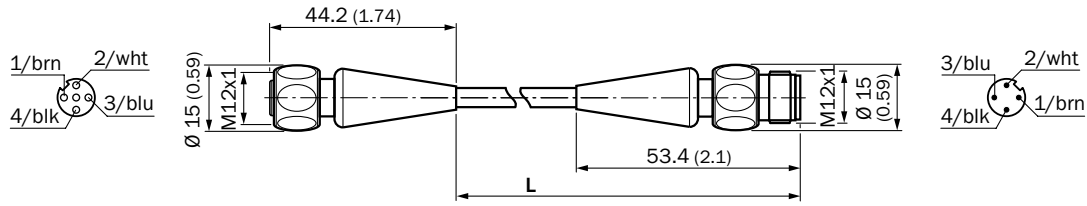


DSL-1204-BxxMRN

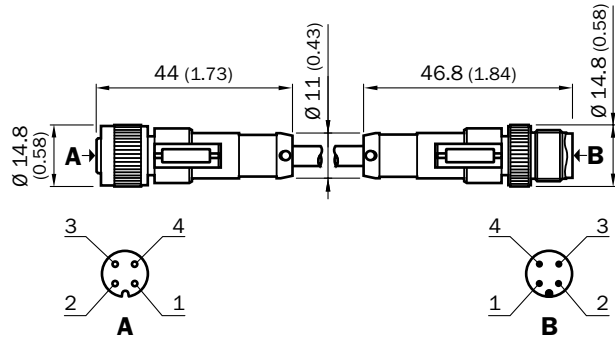




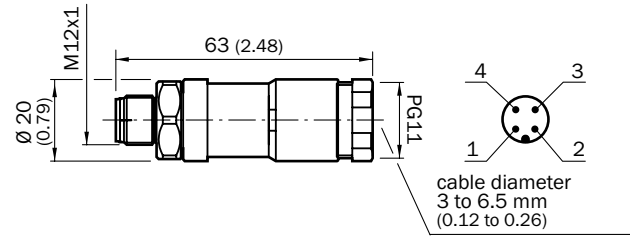
DSL-1204-GxxMRN



DSL-1204-GxxMC



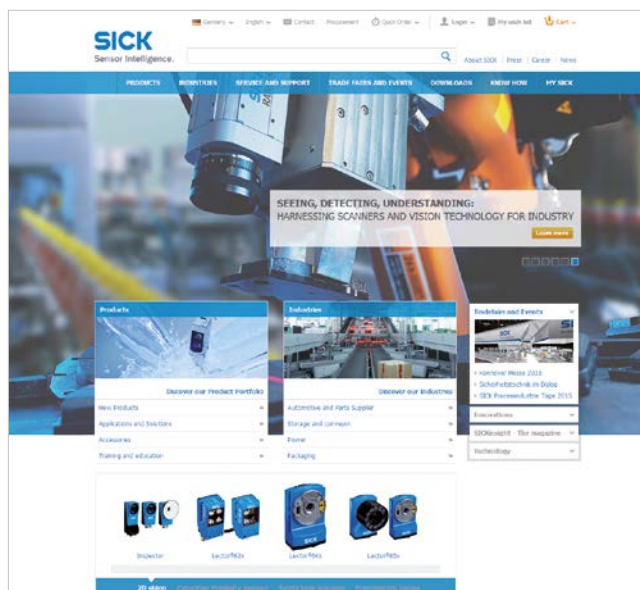
STE-1204-TN





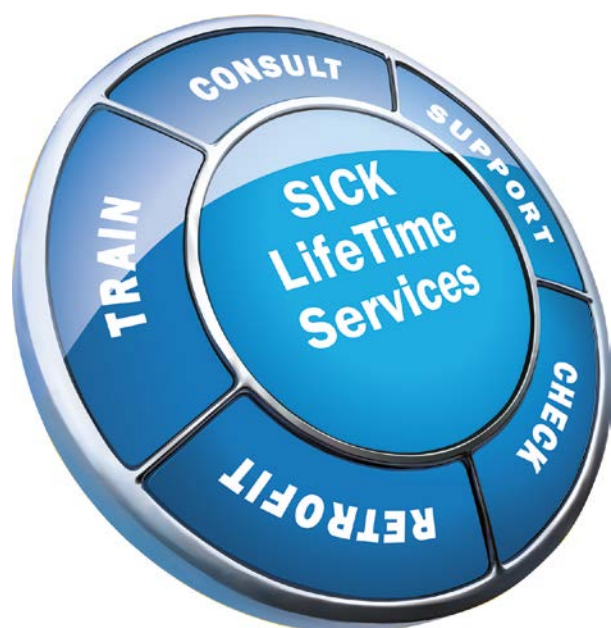
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