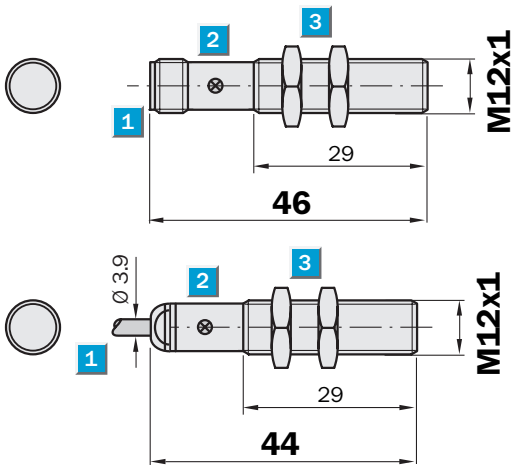
Sensing range 4 mm

Inductive sensor

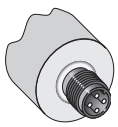
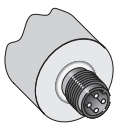
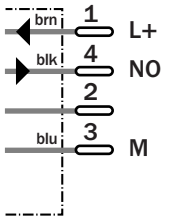
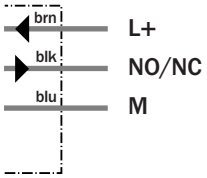
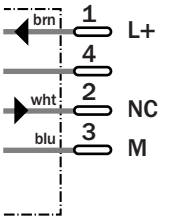
- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- Enclosure rating
- Installation flush

Dimensional drawing



1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 17, metal

Connection type

IME12-04BNSZC0K IME12-04BPSZC0K	IME12-04BN0ZW2K IME12-04BNSZW2K IME12-04BP0ZW2K IME12-04BPSZW2K	IME12-04BN0ZC0K IME12-04BP0ZC0K
		
M12, 4-pin	3 x 0.25 mm²	M12, 4-pin
		
brn 1 L+ blk 4 NO 2 blu 3 M	brn L+ blk NO/NC blu M	brn 1 L+ 4 wht 2 NC blu 3 M

Accessories

Connector, M12, 4-pin
Mounting systems

Technical specifications	IME12-	04BNO ZC0K	04BNO ZW2K	04BNS ZC0K	04BNS ZW2K	04BPO ZC0K	04BPO ZW2K	04BPS ZC0K	04BPS ZW2K
Sensing range S_n	4 mm	■	■	■	■	■	■	■	■
Electrical configuration	DC3-wire	■	■	■	■	■	■	■	■
Supply voltage V_S	DC 10 ... 30 V	■	■	■	■	■	■	■	■
Ripple U_{pp}	≤ 10 %	■	■	■	■	■	■	■	■
Voltage drop U_d	≤ 2 V[1]	■	■	■	■	■	■	■	■
Power consumption	≤ 10 mA[2]	■	■	■	■	■	■	■	■
Continuous current I_a	≤ 200 mA	■	■	■	■	■	■	■	■
Time delay before availability t_v	≤ 100 ms	■	■	■	■	■	■	■	■
Hysteresis H, of s_r	5 ... 15 %	■	■	■	■	■	■	■	■
Repeatability R	≤ 2 % (U_b and T_a constant)[3]	■	■	■	■	■	■	■	■
Temperature drift, of s_r	± 10 %	■	■	■	■	■	■	■	■
EMC	According to EN 60947-5-2	■	■	■	■	■	■	■	■
Switching output	NPN	■	■	■	■				
	PNP					■	■	■	■
Output function	Normally closed	■	■			■	■		
	Normally open			■	■			■	■
Installation	Flush	■	■	■	■	■	■	■	■
Connection type	Connector, M12, 4-pin	■		■		■		■	
	Cable, PVC, 2 m		■		■		■		■
Enclosure rating	IP 67[4]	■	■	■	■	■	■	■	■
Max. switching frequency	2000 Hz	■	■	■	■	■	■	■	■
Dimensions	M12 x 1[5]	■	■	■	■	■	■	■	■
Short-circuit protection	✓[6]	■	■	■	■	■	■	■	■
Reverse polarity protection	✓	■	■	■	■	■	■	■	■
Power-up pulse suppression	✓	■	■	■	■	■	■	■	■
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm	■	■	■	■	■	■	■	■
Ambient temperature T_a	–25 °C ... +75 °C	■	■	■	■	■	■	■	■
Housing material	Brass nickel-plated, plastic (PA6)	■	■	■	■	■	■	■	■
Tightening torque	Typ. 12 Nm	■	■	■	■	■	■	■	■
Approvals									
Protection class	⧈	■	■	■	■	■	■	■	■
UL approval	cULus Listed	■	■	■	■	■	■	■	■

[1] At I_a max
[2] Without load
[3] Of s_r
[4] According to EN 60529
[5] Thread diameter x pitch (mm)
[6] (Pulsed)

Reduction factor R_M

The following are reference values, which may vary from type to type:	
St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

Ordering information

Type	Part Number
IME12-04BNOZC0K	1040775
IME12-04BNOZW2K	1040777
IME12-04BNSZC0K	1040771
IME12-04BNSZW2K	1040773
IME12-04BPOZC0K	1040767
IME12-04BPOZW2K	1040769
IME12-04BPSZC0K	1040763
IME12-04BPSZW2K	1040765

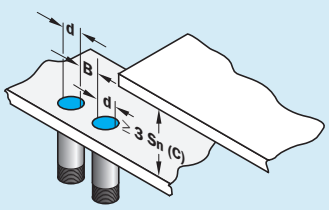
Installation notes

Flush installation in metal

The sensor can be embedded in the metal up to the sensing face.

Proximity sensors for flush installation have a smaller sensing range compared to proximity sensors for non-flush installation with the same shape and design.

General installation notes for cylindrical design for flush installation in metal:



▲ Flush installation

Standard series	
Type	**Metal-free zone [mm]**
IME08-1B5...	B = 8, C = 4,5
IME12-02B...	B = 12, C = 6
IME18-05B...	B = 18, C = 15
IME30-10B...	B = 30, C = 30

Advanced-Reihe	
Type	**Metal-free zone [mm]**
IME08-02B...	B = 16, C = 6
IME12-04B...	B = 24, C = 12
IME18-08B...	B = 36, C = 24
IME30-15B...	B = 60, C = 45

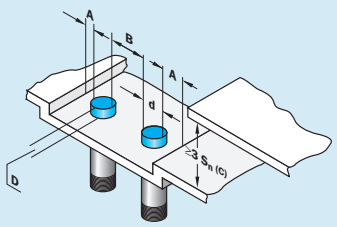
d = Outer diameter of the sensor

Installation notes

Non-flush installation in metal

With proximity sensors for non-flush installation, a metal-free zone must be maintained owing to the scattered field distribution.

General installation notes for cylindrical design for non-flush installation in metal:



▲ Non-flush installation

d = Outer diameter of the sensor

Standard series	
Type	**Metal-free zone [mm]**
IME08-2N5...	A = 8, B = 16, C = 7,5, D = 6
IME12-04N...	A = 12, B = 24, C = 12, D = 8
IME18-08N...	A = 18, B = 36, C = 24, D = 16
IME30-15N...	A = 30, B = 60, C = 45, D = 30

Advanced series	
Type	**Metal-free zone [mm]**
IME08-04N...	A = 8, B = 18, C = 12, D = 8
IME12-08N...	A = 12, B = 24, C = 24, D = 16
IME18-12N...	A = 18, B = 36, C = 36, D = 24
IME30-20N...	A = 30, B = 60, C = 60, D = 40

Opposite installation in metal