

# Inductive sensors IME

Dependable for industrial applications

SICK
Sensor Intelligence.

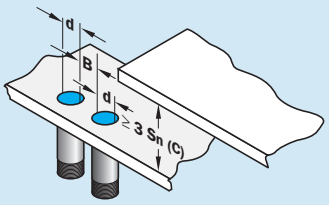
# Installation notes

## 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 |

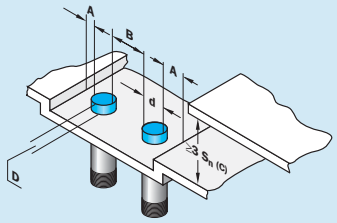
d = Outer diameter of the sensor

# 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:



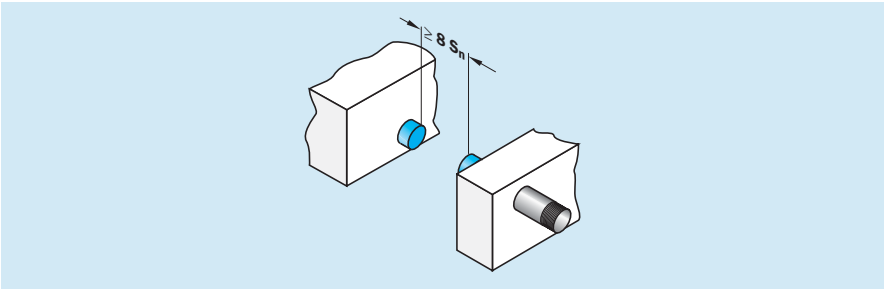

▲ Non-flush installation

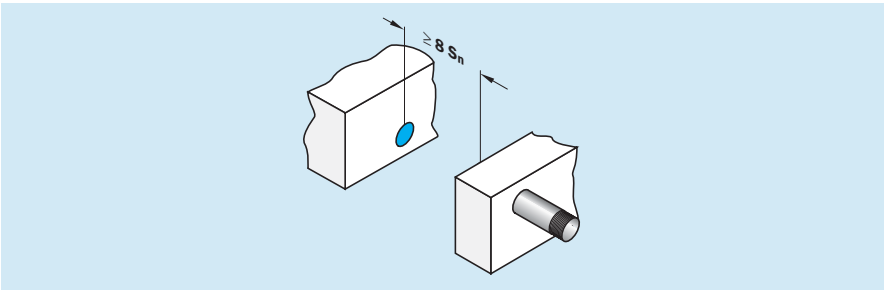
d = Outer diameter of the sensor

| 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



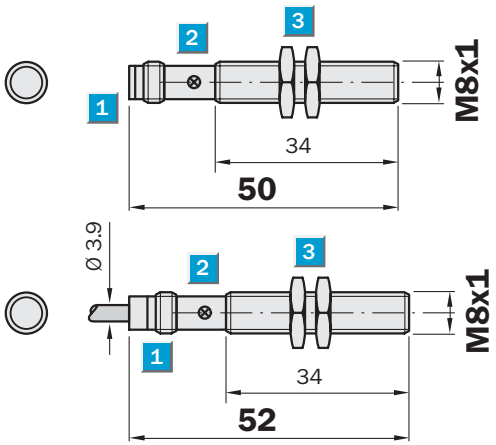



## Sensing range 1.5 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M8 x 1 mm
- Enclosure rating IP 67
- Installation flush

### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 13, metal

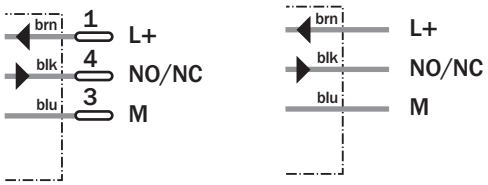


### Connection type

| | |
|---|---|
| IME08-1B5N0ZT0S | IME08-1B5N0ZW2S |
| IME08-1B5NSZT0S | IME08-1B5NSZW2S |
| IME08-1B5P0ZT0S | IME08-1B5P0ZW2S |
| IME08-1B5PSZT0S | IME08-1B5PSZW2S |



| M8, 3-pin | 3 x 0.14 mm² |
|---|---|




### Accessories

Connector, M8, 3-pin

| Technical specifications | IME08- | 1B5N0 ZT0S | 1B5N0 ZW2S | 1B5NS ZT0S | 1B5NS ZW2S | 1B5P0 ZT0S | 1B5P0 ZW2S | 1B5PS ZT0S | 1B5PS ZW2S | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 1.5 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 | Typ. 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, M8, 3-pin | ■ | | ■ | | ■ | | ■ | | | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ | | |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Max. switching frequency | 4000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Dimensions | M8 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. 5 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Ordering information**

| Type | Part Number |
|---|---|
| IME08-1B5N0ZT0S | 1040850 |
| IME08-1B5N0ZW2S | 1040852 |
| IME08-1B5NSZT0S | 1040846 |
| IME08-1B5NSZW2S | 1040848 |
| IME08-1B5P0ZT0S | 1040842 |
| IME08-1B5P0ZW2S | 1040844 |
| IME08-1B5PSZT0S | 1040838 |
| IME08-1B5PSZW2S | 1040840 |

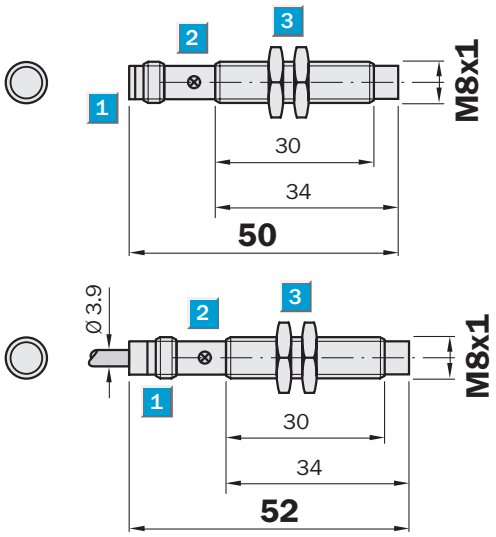
## Sensing range 2.5 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M8 x 1 mm
- Enclosure rating IP 67
- Installation non-flush



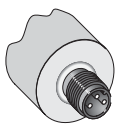
### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 13, metal

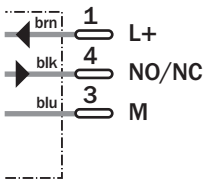
### Connection type

| | |
|---|---|
| IME08-2N5NOZT0S | IME08-2N5NOZW2S |
| IME08-2N5NSZT0S | IME08-2N5NSZW2S |
| IME08-2N5POZT0S | IME08-2N5POZW2S |
| IME08-2N5PSZT0S | IME08-2N5PSZW2S |

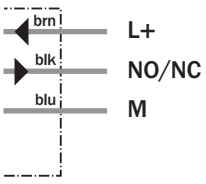




M8, 3-pin




3 x 0.14 mm²




### Accessories

Connector, M8, 3-pin

| Technical specifications | IME08- | 2N5N0ZT0S | 2N5N0ZW2S | 2N5NSZT0S | 2N5NSZW2S | 2N5P0ZT0S | 2N5P0ZW2S | 2N5PSZT0S | 2N5PSZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 2.5 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 | Typ. 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M8, 3-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 4000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M8 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. 5 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Ordering information**

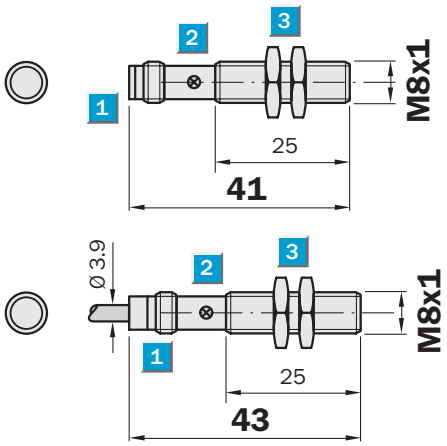
| Type | Part Number |
|---|---|
| IME08-2N5N0ZT0S | 1040866 |
| IME08-2N5N0ZW2S | 1040868 |
| IME08-2N5NSZT0S | 1040862 |
| IME08-2N5NSZW2S | 1040864 |
| IME08-2N5P0ZT0S | 1040858 |
| IME08-2N5P0ZW2S | 1040860 |
| IME08-2N5PSZT0S | 1040854 |
| IME08-2N5PSZW2S | 1040856 |

## Sensing range 1.5 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M8 x 1 mm
- Enclosure rating IP 67
- Installation flush

### Dimensional drawing

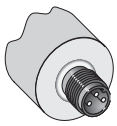



1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 13, metal



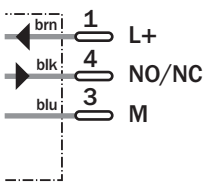
### Connection type

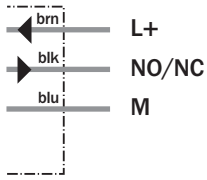
| | |
|---|---|
| IME08-1B5NOZT0K | IME08-1B5NOZW2K |
| IME08-1B5NSZT0K | IME08-1B5NSZW2K |
| IME08-1B5POZT0K | IME08-1B5POZW2K |
| IME08-1B5PSZT0K | IME08-1B5PSZW2K |





| M8, 3-pin | 3 x 0.14 mm² |
|---|---|




### Accessories

Connector, M8, 3-pin

| Technical specifications | IME08- | 1B5NOZT0K | 1B5NOZW2K | 1B5NSZT0K | 1B5NSZW2K | 1B5POZT0K | 1B5POZW2K | 1B5PSZT0K | 1B5PSZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 1.5 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 | Typ. 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, M8, 3-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 4000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M8 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. 5 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Ordering information**

| Type | Part Number |
|---|---|
| IME08-1B5NOZT0K | 1040849 |
| IME08-1B5NOZW2K | 1040851 |
| IME08-1B5NSZT0K | 1040845 |
| IME08-1B5NSZW2K | 1040847 |
| IME08-1B5POZT0K | 1040841 |
| IME08-1B5POZW2K | 1040843 |
| IME08-1B5PSZT0K | 1040837 |
| IME08-1B5PSZW2K | 1040839 |

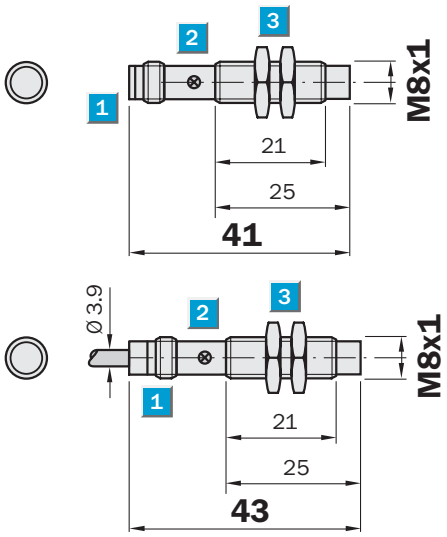
## Sensing range 2.5 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M8 x 1 mm
- Enclosure rating IP 67
- Installation non-flush



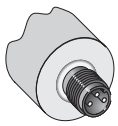
### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 13, metal

### Connection type

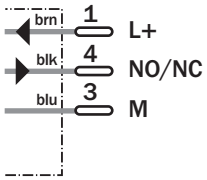
| | |
|---|---|
| IME08-2N5NOZT0K | IME08-2N5NOZW2K |
| IME08-2N5NSZT0K | IME08-2N5NSZW2K |
| IME08-2N5POZT0K | IME08-2N5POZW2K |
| IME08-2N5PSZT0K | IME08-2N5PSZW2K |

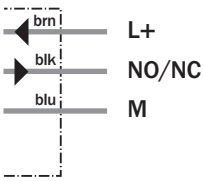


M8, 3-pin



3 x 0.14 mm²




### Accessories

Connector, M8, 3-pin

| Technical specifications | IME08- | 2N5NOZT0K | 2N5NOZW2K | 2N5NSZT0K | 2N5NSZW2K | 2N5POZT0K | 2N5POZW2K | 2N5PSZT0K | 2N5PSZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 2.5 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 | Typ. 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M8, 3-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 4000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M8 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. 5 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

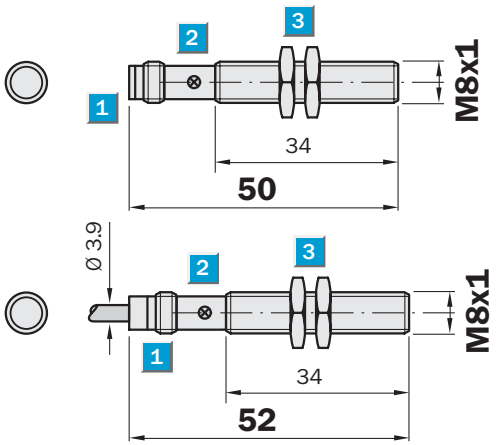
| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME08-2N5NOZT0K | 1040865 |
| IME08-2N5NOZW2K | 1040867 |
| IME08-2N5NSZT0K | 1040861 |
| IME08-2N5NSZW2K | 1040863 |
| IME08-2N5POZT0K | 1040857 |
| IME08-2N5POZW2K | 1040859 |
| IME08-2N5PSZT0K | 1040853 |
| IME08-2N5PSZW2K | 1040855 |

## Sensing range 2 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M8 x 1 mm
- Enclosure rating IP 67
- Installation flush

### Dimensional drawing

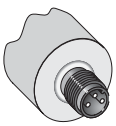



1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 13, metal



### Connection type

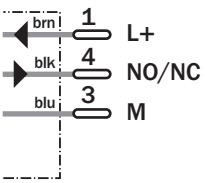
| | |
|---|---|
| IME08-02BN0ZT0S | IME08-02BN0ZW2S |
| IME08-02BNSZT0S | IME08-02BNSZW2S |
| IME08-02BP0ZT0S | IME08-02BP0ZW2S |
| IME08-02BPSZT0S | IME08-02BPSZW2S |

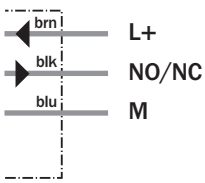




M8, 3-pin

3 x 0.14 mm²




### Accessories

Connector, M8, 3-pin

| Technical specifications | IME08- | 02BNO ZT0S | 02BNO ZW2S | 02BNS ZT0S | 02BNS ZW2S | 02BPO ZT0S | 02BPO ZW2S | 02BPS ZT0S | 02BPS ZW2S | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 2 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 | Typ. 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, M8, 3-pin | ■ | | ■ | | ■ | | ■ | | | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ | | |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Max. switching frequency | 4000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Dimensions | M8 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. 5 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME08-02BN0ZT0S | 1040882 |
| IME08-02BN0ZW2S | 1040884 |
| IME08-02BNSZT0S | 1040878 |
| IME08-02BNSZW2S | 1040880 |
| IME08-02BP0ZT0S | 1040874 |
| IME08-02BP0ZW2S | 1040876 |
| IME08-02BPSZT0S | 1040870 |
| IME08-02BPSZW2S | 1040872 |

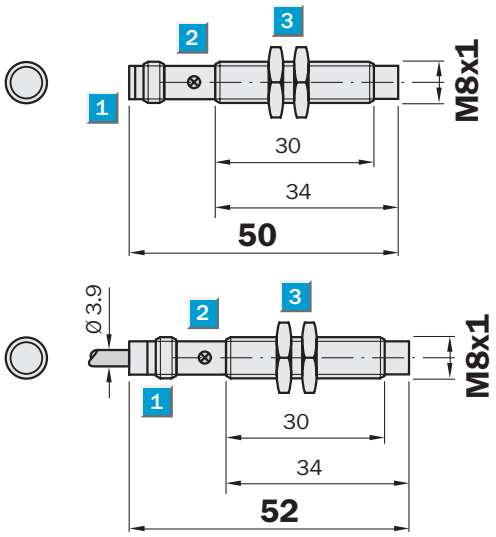
## Sensing range 4 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M8 x 1 mm
- Enclosure rating IP 67
- Installation non-flush



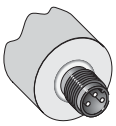
### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 13, metal

### Connection type

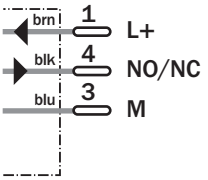
| | |
|---|---|
| IME08-04NNOZT0S | IME08-04NNOZW2S |
| IME08-04NNSZT0S | IME08-04NNSZW2S |
| IME08-04NPOZT0S | IME08-04NPOZW2S |
| IME08-04NPSZT0S | IME08-04NPSZW2S |

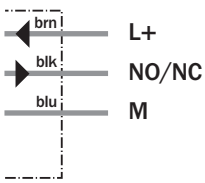




M8, 3-pin

3 x 0.14 mm²




### Accessories

Connector, M8, 3-pin

| Technical specifications | IME08- | 04NNO ZT0S | 04NNO ZW2S | 04NNS ZT0S | 04NNS ZW2S | 04NPO ZT0S | 04NPO ZW2S | 04NPS ZT0S | 04NPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **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 | Typ. 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M8, 3-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 4000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M8 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. 5 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

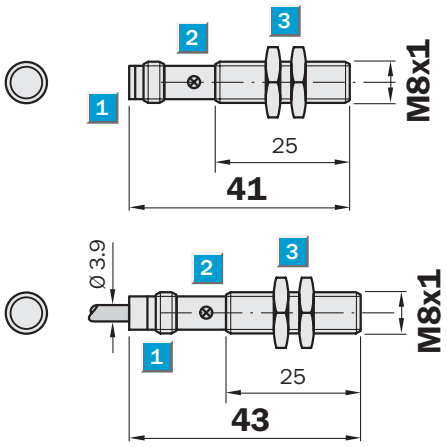
| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME08-04NNOZT0S | 1040898 |
| IME08-04NNOZW2S | 1040900 |
| IME08-04NNSZT0S | 1040894 |
| IME08-04NNSZW2S | 1040896 |
| IME08-04NPOZT0S | 1040890 |
| IME08-04NPOZW2S | 1040892 |
| IME08-04NPSZT0S | 1040886 |
| IME08-04NPSZW2S | 1040888 |

## Sensing range 2 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M8 x 1 mm
- Enclosure rating IP 67
- Installation flush

**Dimensional drawing**

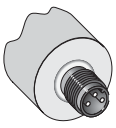



1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 13, metal



**Connection type**

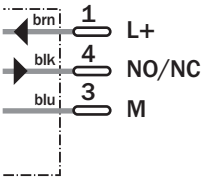
| | |
|---|---|
| IME08-02BNOZT0K | IME08-02BNOZW2K |
| IME08-02BNSZT0K | IME08-02BNSZW2K |
| IME08-02BPOZT0K | IME08-02BPOZW2K |
| IME08-02BPSZT0K | IME08-02BPSZW2K |

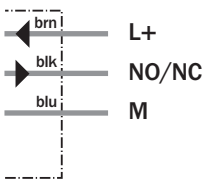




M8, 3-pin

3 x 0.14 mm²




**Accessories**

Connector, M8, 3-pin

| Technical specifications | IME08- | 02BNO ZT0K | 02BNO ZW2K | 02BNS ZT0K | 02BNS ZW2K | 02BPO ZT0K | 02BPO ZW2K | 02BPS ZT0K | 02BPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 2 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 | Typ. 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, M8, 3-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 4000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M8 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. 5 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Ordering information**

| Type | Part Number |
|---|---|
| IME08-02BNOZT0K | 1040881 |
| IME08-02BNOZW2K | 1040883 |
| IME08-02BNSZT0K | 1040877 |
| IME08-02BNSZW2K | 1040879 |
| IME08-02BPOZT0K | 1040873 |
| IME08-02BPOZW2K | 1040875 |
| IME08-02BPSZT0K | 1040869 |
| IME08-02BPSZW2K | 1040871 |

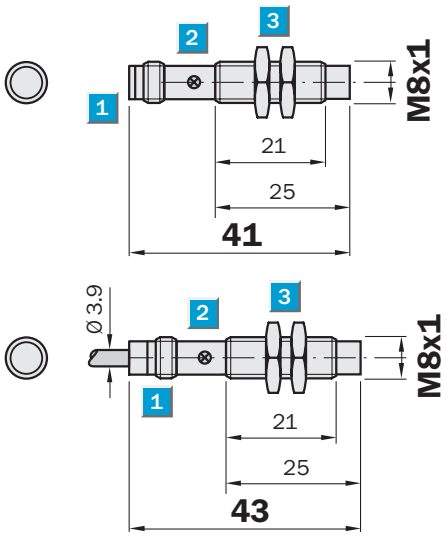
## Sensing range 4 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M8 x 1 mm
- Enclosure rating IP 67
- Installation non-flush



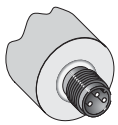
### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 13, metal

### Connection type

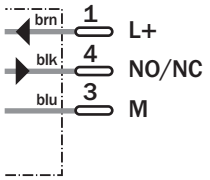
| | |
|---|---|
| IME08-04NNOZT0K | IME08-04NNOZW2K |
| IME08-04NNSZT0K | IME08-04NNSZW2K |
| IME08-04NPOZT0K | IME08-04NPOZW2K |
| IME08-04NPSZT0K | IME08-04NPSZW2K |

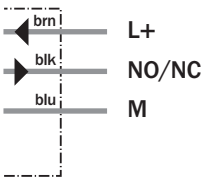


M8, 3-pin



3 x 0.14 mm²




### Accessories

Connector, M8, 3-pin

| Technical specifications | IME08- | 04NNO ZT0K | 04NNO ZW2K | 04NNS ZT0K | 04NNS ZW2K | 04NPO ZT0K | 04NPO ZW2K | 04NPS ZT0K | 04NPS 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 | Typ. 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M8, 3-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 4000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M8 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. 5 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME08-04NNOZT0K | 1040897 |
| IME08-04NNOZW2K | 1040899 |
| IME08-04NNSZT0K | 1040893 |
| IME08-04NNSZW2K | 1040895 |
| IME08-04NPOZT0K | 1040889 |
| IME08-04NPOZW2K | 1040891 |
| IME08-04NPSZT0K | 1040885 |
| IME08-04NPSZW2K | 1040887 |

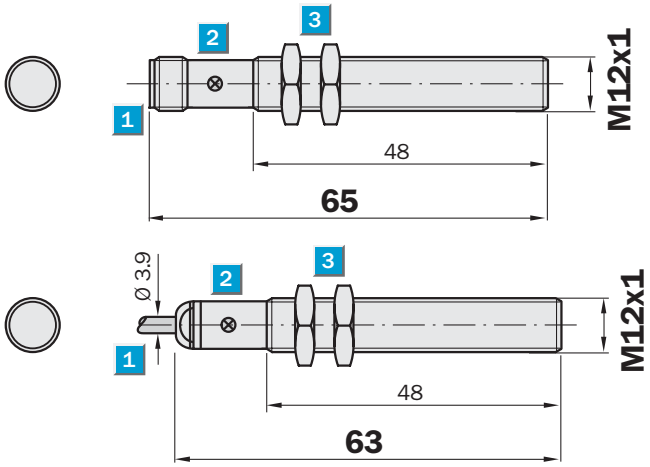
## Sensing range 2 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- Enclosure rating IP 67
- Installation flush

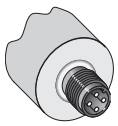
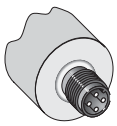
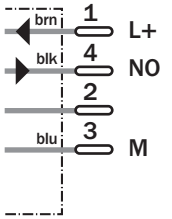
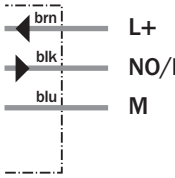
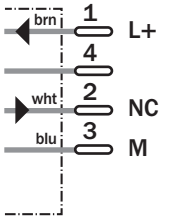


**Dimensional drawing**




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

**Connection type**

| IME12-02BNSZC0S<br>IME12-02BPSZC0S | IME12-02BN0ZW2S<br>IME12-02BNSZW2S<br>IME12-02BP0ZW2S<br>IME12-02BPSZW2S | IME12-02BN0ZC0S<br>IME12-02BP0ZC0S |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |
| brn 1 L+<br>blk 4 NO<br>2<br>blu 3 M | brn L+<br>blk NO/NC<br>blu M | brn 1 L+<br>4<br>wht 2 NC<br>blu 3 M |

**Accessories**

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME12- | 02BNO ZC0S | 02BNO ZW2S | 02BNS ZC0S | 02BNS ZW2S | 02BPO ZC0S | 02BPO ZW2S | 02BPS ZC0S | 02BPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 2 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Ordering information**

| Type | Part Number |
|---|---|
| IME12-02BN0ZC0S | 1040743 |
| IME12-02BN0ZW2S | 1040746 |
| IME12-02BNSZC0S | 1040740 |
| IME12-02BNSZW2S | 1040742 |
| IME12-02BP0ZC0S | 1040736 |
| IME12-02BP0ZW2S | 1040738 |
| IME12-02BPSZC0S | 1040732 |
| IME12-02BPSZW2S | 1040734 |

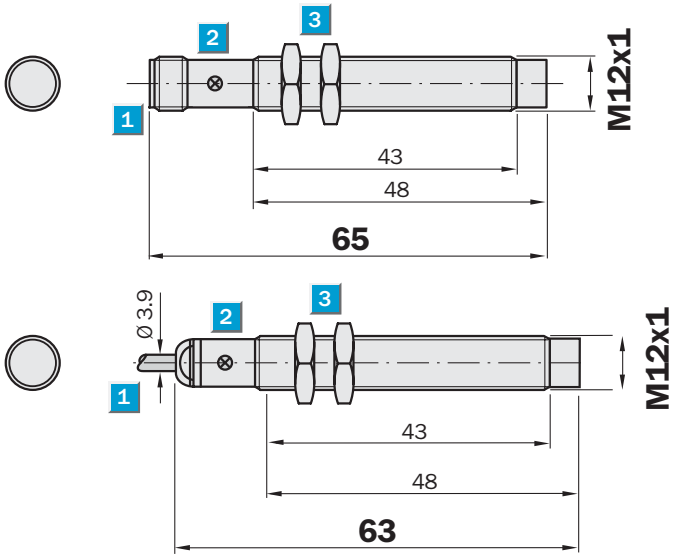
## Sensing range 4 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- Enclosure rating IP 67
- Installation non-flush

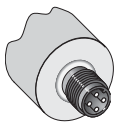
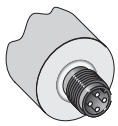
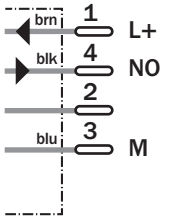
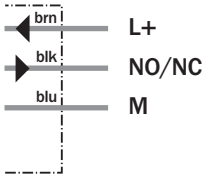
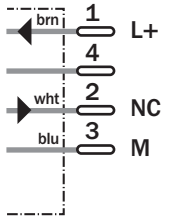


### Dimensional drawing




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

### Connection type

| IME12-04NNSZC0S<br>IME12-04NPSZC0S | IME12-04NN0ZW2S<br>IME12-04NNSZW2S<br>IME12-04NP0ZW2S<br>IME12-04NPSZW2S | IME12-04NN0ZC0S<br>IME12-04NP0ZC0S |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |



### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME12- | 04NNO ZC0S | 04NNO ZW2S | 04NNS ZC0S | 04NNS ZW2S | 04NPO ZC0S | 04NPO ZW2S | 04NPS ZC0S | 04NPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **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** | Non-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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Ordering information**

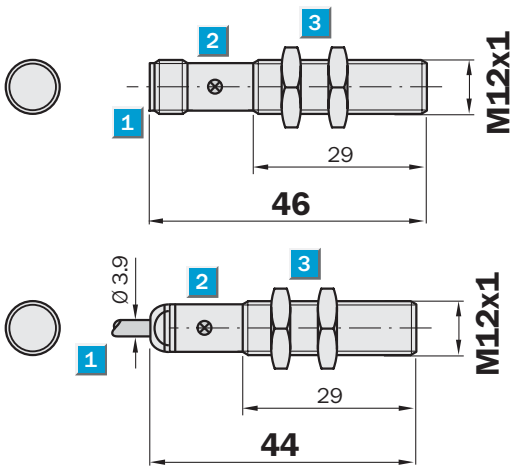
| Type | Part Number |
|---|---|
| IME12-04NN0ZC0S | 1040760 |
| IME12-04NN0ZW2S | 1040762 |
| IME12-04NNSZC0S | 1040756 |
| IME12-04NNSZW2S | 1040757 |
| IME12-04NP0ZC0S | 1040752 |
| IME12-04NP0ZW2S | 1040754 |
| IME12-04NPSZC0S | 1040748 |
| IME12-04NPSZW2S | 1040750 |

## Sensing range 2 mm

**Inductive sensor**

- Short circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- Enclosure rating IP 67
- Installation flush

**Dimensional drawing**



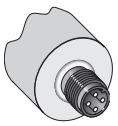
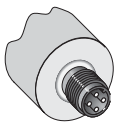
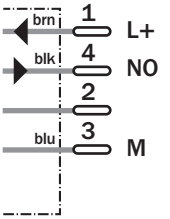
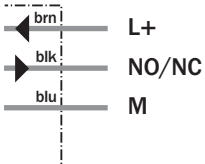
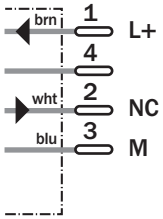

1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 17, metal



**Accessories**

Connector, M12, 4-pin
Mounting systems

**Connection type**

| IME12-02BNSZC0K<br>IME12-02BPSZC0K | IME12-02BN0ZW2K<br>IME12-02BNSZW2K<br>IME12-02BP0ZW2K<br>IME12-02BPSZW2K | IME12-02BN0ZC0K<br>IME12-02BP0ZC0K |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |

| Technical specifications | IME12- | 02BNO ZC0K | 02BNO ZW2K | 02BNS ZC0K | 02BNS ZW2K | 02BPO ZC0K | 02BPO ZW2K | 02BPS ZC0K | 02BPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 2 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME12-02BNOZC0K | 1040744 |
| IME12-02BNOZW2K | 1040745 |
| IME12-02BNSZC0K | 1040739 |
| IME12-02BNSZW2K | 1040741 |
| IME12-02BPOZC0K | 1040735 |
| IME12-02BPOZW2K | 1040737 |
| IME12-02BPSZC0K | 1040731 |
| IME12-02BPSZW2K | 1040733 |

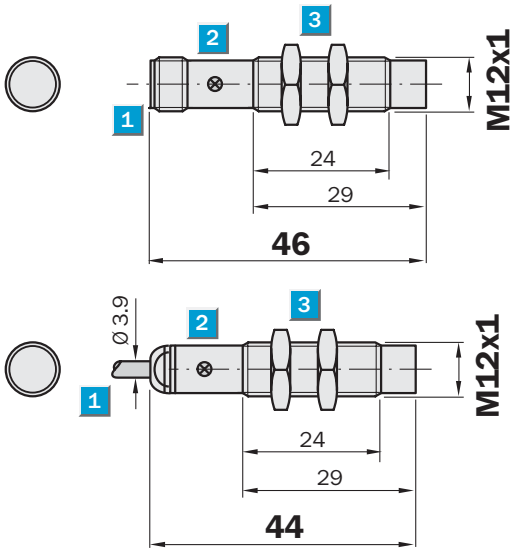
## Sensing range 4 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- Enclosure rating IP 67
- Installation non-flush

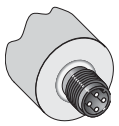
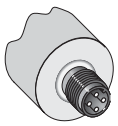
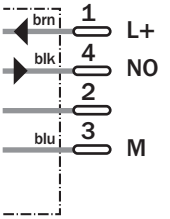
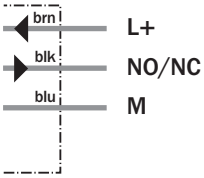
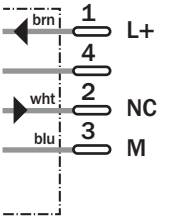


**Dimensional drawing**




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

**Connection type**

| IME12-04NNSZC0K<br>IME12-04NPSZC0K | IME12-04NNOZW2K<br>IME12-04NNSZW2K<br>IME12-04NPOZW2K<br>IME12-04NPSZW2K | IME12-04NNOZC0K<br>IME12-04NPOZC0K |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |
| brn 1 L+<br>blk 4 NO<br>2<br>blu 3 M | brn L+<br>blk NO/NC<br>blu M | brn 1 L+<br>4<br>wht 2 NC<br>blu 3 M |

**Accessories**

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME12- | 04NNO ZC0K | 04NNO ZW2K | 04NNS ZC0K | 04NNS ZW2K | 04NPO ZC0K | 04NPO ZW2K | 04NPS ZC0K | 04NPS 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** | Non-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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME12-04NNOZC0K | 1040759 |
| IME12-04NNOZW2K | 1040761 |
| IME12-04NNSZC0K | 1040755 |
| IME12-04NNSZW2K | 1040758 |
| IME12-04NPOZC0K | 1040751 |
| IME12-04NPOZW2K | 1040753 |
| IME12-04NPSZC0K | 1040747 |
| IME12-04NPSZW2K | 1040749 |

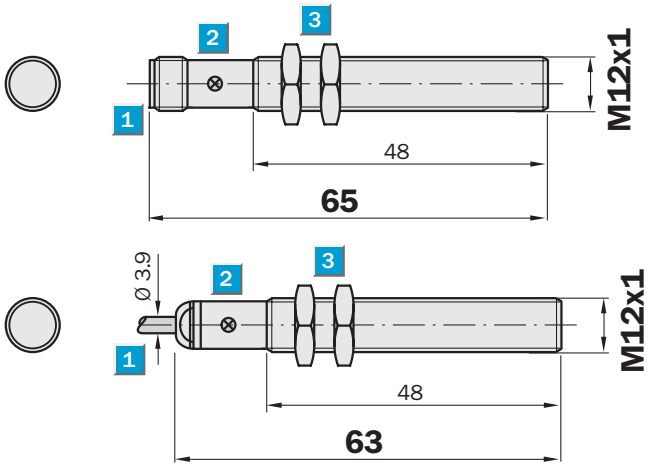
## Sensing range 4 mm

**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

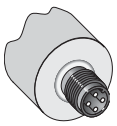
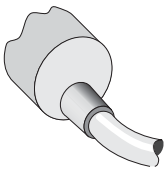
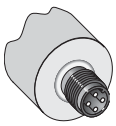
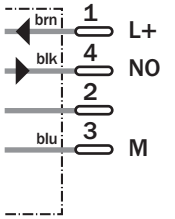
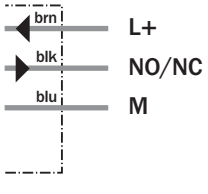
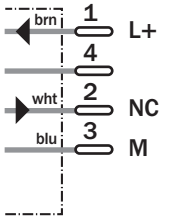


**Dimensional drawing**




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

**Connection type**

| IME12-04BNSZC0S<br>IM12E-04BPSZC0S | IME12-04BN0ZW2S<br>IME12-04BNSZW2S<br>IME12-04BP0ZW2S<br>IME12-04BPSZW2S | IME12-04BN0ZC0S<br>IME12-04BP0ZC0S |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |



**Accessories**

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME12- | 04BNO ZC0S | 04BNO ZW2S | 04BNS ZC0S | 04BNS ZW2S | 04BPO ZC0S | 04BPO ZW2S | 04BPS ZC0S | 04BPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME12-04BN0ZC0S | 1040776 |
| IME12-04BN0ZW2S | 1040778 |
| IME12-04BNSZC0S | 1040772 |
| IME12-04BNSZW2S | 1040774 |
| IME12-04BP0ZC0S | 1040768 |
| IME12-04BP0ZW2S | 1040770 |
| IM12E-04BPSZC0S | 1040764 |
| IME12-04BPSZW2S | 1040766 |

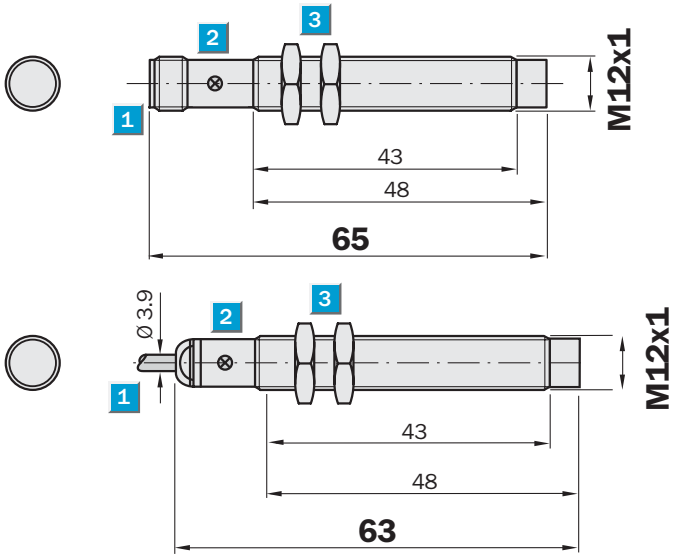
## Sensing range 8 mm

**Inductive sensor**

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



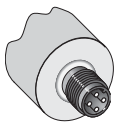
**Dimensional drawing**



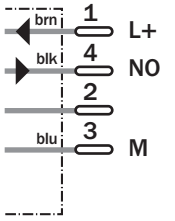

1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 17, metal

**Connection type**

| | | |
|---|---|---|
| IME12-08NNSZC0S | IME12-08NN0ZW2S | IME12-08NN0ZC0S |
| IME12-08NPSZC0S | IME12-08NNSZW2S | IME12-08NP0ZC0S |
| | IME12-08NP0ZW2S | |
| | IME12-08NPSZW2S | |

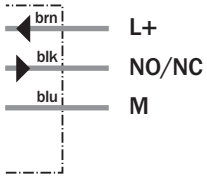


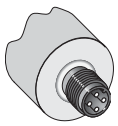
M12, 4-pin



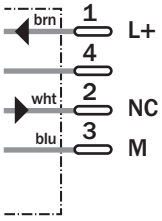



3 x 0.25 mm²



M12, 4-pin




**Accessories**

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME12- | 08NNO ZC0S | 08NNO ZW2S | 08NNS ZC0S | 08NNS ZW2S | 08NPO ZC0S | 08NPO ZW2S | 08NPS ZC0S | 08NPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 8 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** | PNP | ■ | | | | ■ | ■ | ■ | ■ |
| | NPN | | ■ | ■ | ■ | | | | |
| **Output function** | Normally closed | ■ | ■ | | | ■ | ■ | | |
| | Normally open | | | ■ | ■ | | | ■ | ■ |
| **Installation** | Overflush | ■ | | | | | | | |
| | Non-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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME12-08NN0ZC0S | 1040826 |
| IME12-08NN0ZW2S | 1040793 |
| IME12-08NNSZC0S | 1040788 |
| IME12-08NNSZW2S | 1040790 |
| IME12-08NP0ZC0S | 1040784 |
| IME12-08NP0ZW2S | 1040786 |
| IME12-08NPSZC0S | 1040780 |
| IME12-08NPSZW2S | 1040782 |

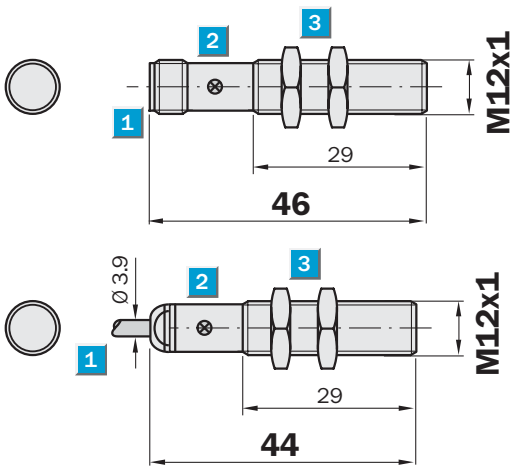
## Sensing range 4 mm

**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

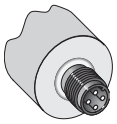
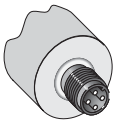
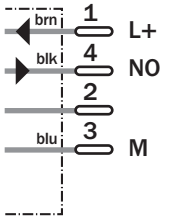
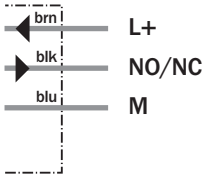
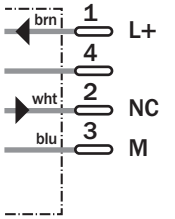


### Dimensional drawing




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

### Connection type

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

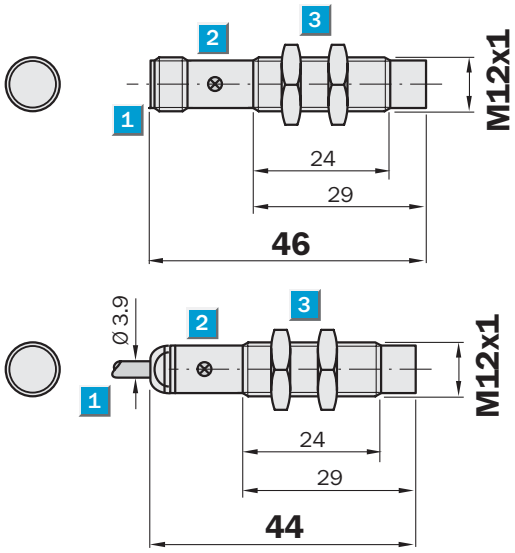
## Sensing range 8 mm

**Inductive sensor**

- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- Enclosure rating IP 67
- Installation non-flush

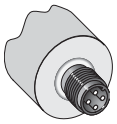
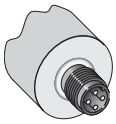
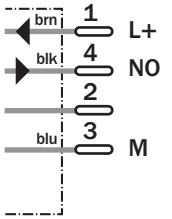
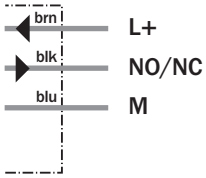
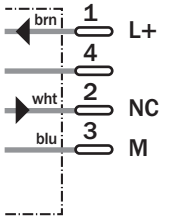


### Dimensional drawing




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

### Connection type

| IME12-08NNSZC0K<br>IME12-08NPSZC0K | IME12-08NN0ZW2K<br>IME12-08NNSZW2K<br>IME12-08NP0ZW2K<br>IME12-08NPSZW2K | IME12-08NN0ZC0K<br>IME12-08NP0ZC0K |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |
| brn 1 L+<br>blk 4 NO<br>2<br>blu 3 M | brn L+<br>blk NO/NC<br>blu M | brn 1 L+<br>4<br>wht 2 NC<br>blu 3 M |

### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME12- | 08NNO ZC0K | 08NNO ZW2K | 08NNS ZC0K | 08NNS ZW2K | 08NPO ZC0K | 08NPO ZW2K | 08NPS ZC0K | 08NPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 8 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** | Non-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 $s_{rr}$
[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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME12-08NNOZC0K | 1040791 |
| IME12-08NNOZW2K | 1040792 |
| IME12-08NNSZC0K | 1040787 |
| IME12-08NNSZW2K | 1040789 |
| IME12-08NPOZC0K | 1040783 |
| IME12-08NPOZW2K | 1040785 |
| IME12-08NPSZC0K | 1040779 |
| IME12-08NPSZW2K | 1040781 |

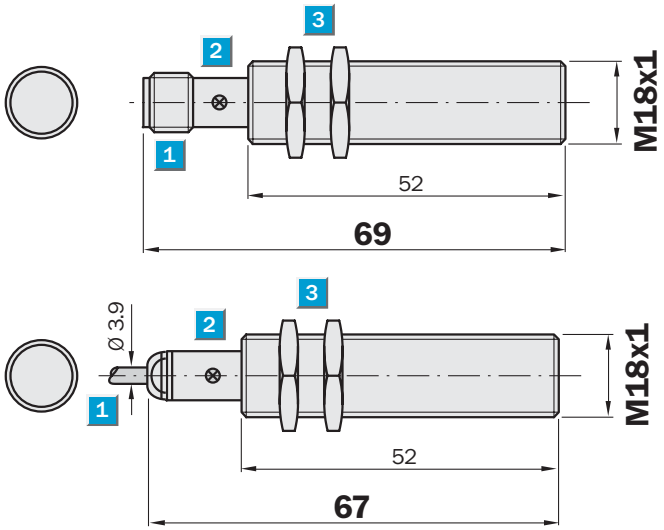
## Sensing range 5 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation flush

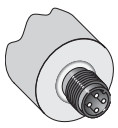
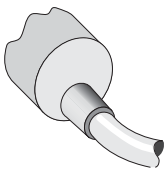
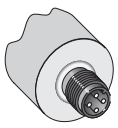
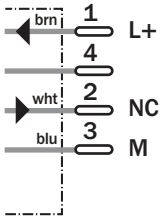
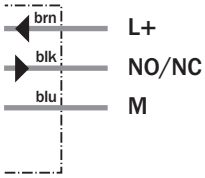
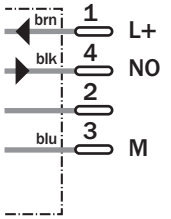


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 24, metal

### Connection type

| IME18-05BNOZC0S<br>IME18-05BPOZC0S | IME18-05BNOZW2S<br>IME18-05BNSZW2S<br>IME18-05BPOZW2S<br>IME18-05BPSZW2S | IME18-05BNSZC0S<br>IME18-05BPSZ0S |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |
| brn 1 L+<br>4<br>wht 2 NC<br>blu 3 M | brn L+<br>blk NO/NC<br>blu M | brn 1 L+<br>blk 4 NO<br>2<br>blu 3 M |

### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME18- | 05BNO ZC0S | 05BNO ZW2S | 05BNS ZC0S | 05BNS ZW2S | 05BPO ZC0S | 05BPO ZW2S | 05BPS ZC0S | 05BPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 5 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 | 1000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M18 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 | 40 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME18-05BN0ZC0S | 1040946 |
| IME18-05BN0ZW2S | 1040948 |
| IME18-05BNSZC0S | 1040942 |
| IME18-05BNSZW2S | 1040944 |
| IME18-05BP0ZC0S | 1040938 |
| IME18-05BP0ZW2S | 1040940 |
| IME18-05BPSZC0S | 1040934 |
| IME18-05BPSZW2S | 1040936 |

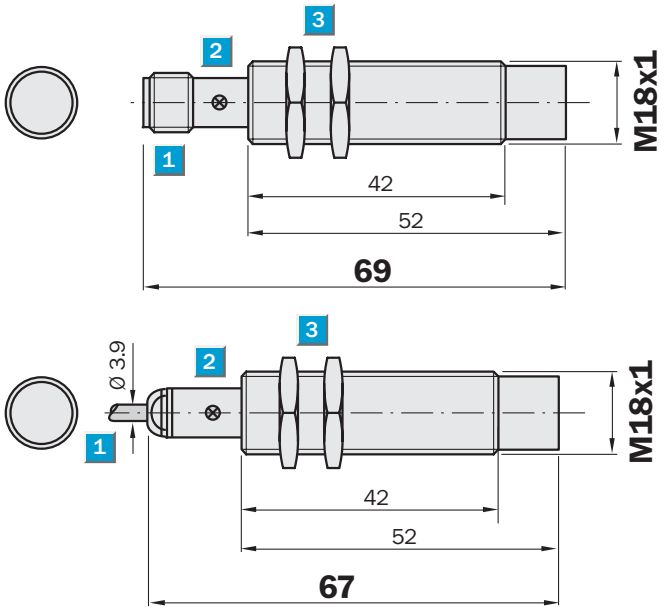
## Sensing range 8 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation non-flush



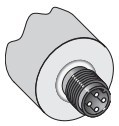
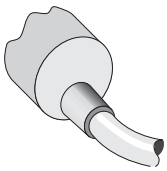
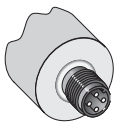
### Dimensional drawing



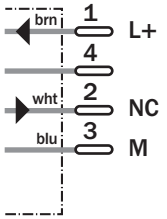

1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 24, metal

### Connection type

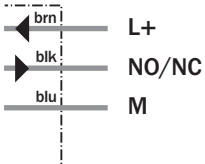
| | | |
|---|---|---|
| IME18-08NN0ZC0S | IME18-08NN0ZW2S | IME18-08NNSZC0S |
| IME18-08NP0ZC0S | IME18-08NNSZW2S | IME18-08NPSZC0S |
| | IME18-08NP0ZW2S | |
| | IME18-08NPSZW2S | |

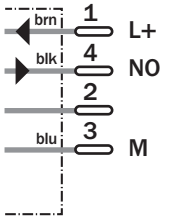
M12, 4-pin




3 x 0.25 mm²




M12, 4-pin




### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME18- | 08NNO ZC0S | 08NNO ZW2S | 08NNS ZC0S | 08NNS ZW2S | 08NPO ZC0S | 08NPO ZW2S | 08NPS ZC0S | 08NPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 8 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M12, 4-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 1000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M18 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 | 40 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME18-08NN0ZC0S | 1040962 |
| IME18-08NN0ZW2S | 1040964 |
| IME18-08NNSZC0S | 1040958 |
| IME18-08NNSZW2S | 1040960 |
| IME18-08NP0ZC0S | 1040954 |
| IME18-08NP0ZW2S | 1040956 |
| IME18-08NPSZC0S | 1040950 |
| IME18-08NPSZW2S | 1040952 |

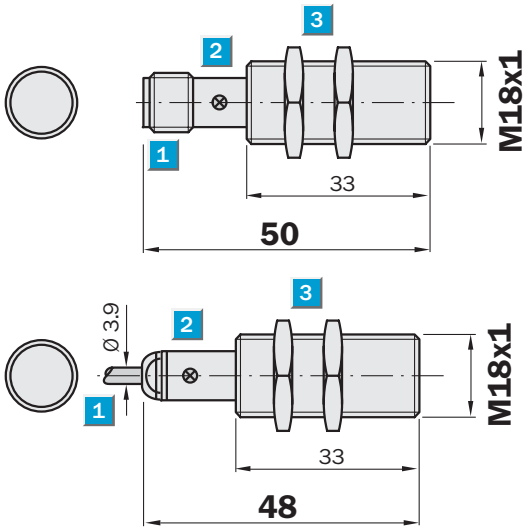
## Sensing range 5 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation flush

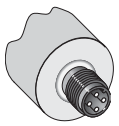
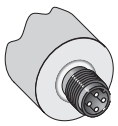
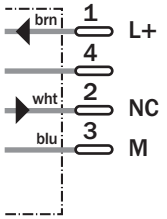
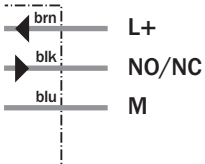
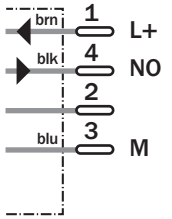


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 24, metal

### Connection type

| IME18-05BNOZC0K<br>IME18-05BPOZC0K | IME18-05BNOZW2K<br>IME18-05BNSZW2K<br>IME18-05BPOZW2K<br>IME18-05BPSZW2K | IME18-05BNSZC0K<br>IME18-05BPSZC0K |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |
| brn 1 L+<br>4<br>wht 2 NC<br>blu 3 M | brn L+<br>blk NO/NC<br>blu M | brn 1 L+<br>blk 4 NO<br>2<br>blu 3 M |

### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME18- | 05BNO ZC0K | 05BNO ZW2K | 05BNS ZC0K | 05BNS ZW2K | 05BPO ZC0K | 05BPO ZW2K | 05BPS ZC0K | 05BPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 5 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 | 1000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M18 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 | 40 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME18-05BNOZC0K | 1040945 |
| IME18-05BNOZW2K | 1040947 |
| IME18-05BNSZC0K | 1040941 |
| IME18-05BNSZW2K | 1040943 |
| IME18-05BPOZC0K | 1040937 |
| IME18-05BPOZW2K | 1040939 |
| IME18-05BPSZC0K | 1040933 |
| IME18-05BPSZW2K | 1040935 |

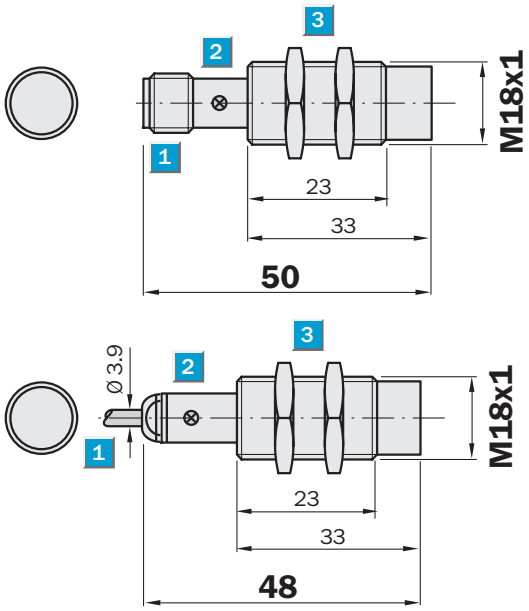
## Sensing range 8 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation non-flush



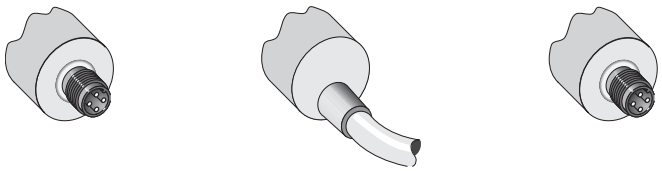
**Dimensional drawing**



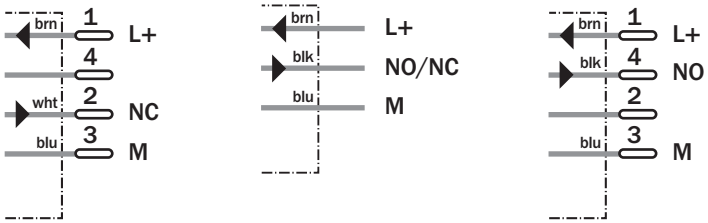

1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 24, metal

**Connection type**

| | | |
|---|---|---|
| IME18-08NN0ZC0K | IME18-08NN0ZW2K | IME18-08NNSZC0K |
| IME18-08NP0ZC0K | IME18-08NNSZW2K | IME18-08NPSZC0K |
| | IME18-08NP0ZW2K | |
| | IME18-08NPSZW2K | |



| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|---|---|---|




**Accessories**

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME18- | 08NNO ZC0K | 08NNO ZW2K | 08NNS ZC0K | 08NNS ZW2K | 08NPO ZC0K | 08NPO ZW2K | 08NPS ZC0K | 08NPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 8 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M12, 4-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 1000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M18 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 | 40 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME18-08NN0ZC0K | 1040961 |
| IME18-08NN0ZW2K | 1040963 |
| IME18-08NNSZC0K | 1040957 |
| IME18-08NNSZW2K | 1040959 |
| IME18-08NP0ZC0K | 1040953 |
| IME18-08NP0ZW2K | 1040955 |
| IME18-08NPSZC0K | 1040949 |
| IME18-08NPSZW2K | 1040951 |

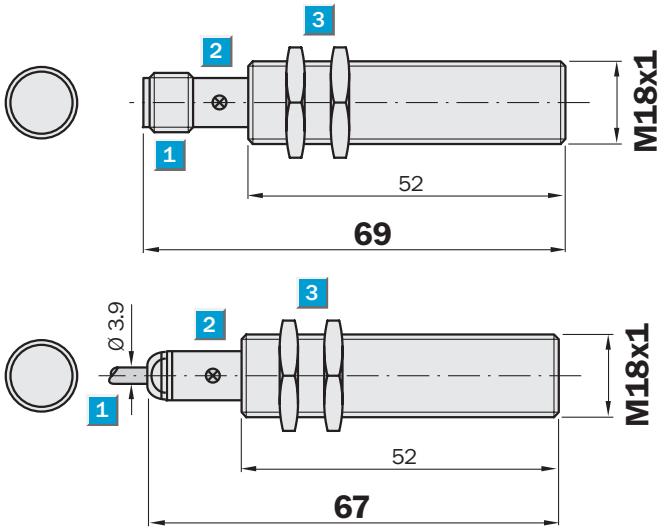
## Sensing range 8 mm

**Inductive sensor**

- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation flush

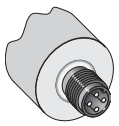
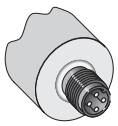
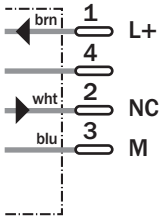
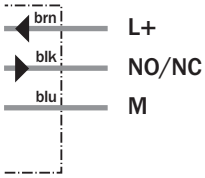
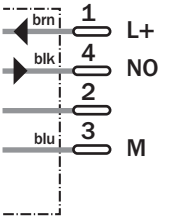


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 24, metal

### Connection type

| IME18-BN0ZC0S<br>IME18-08BP0ZC0S | IME18-08BN0ZW2S<br>IME18-08BNSZW2S<br>IME18-08BP0ZW2S<br>IME18-08BPSZW2S | IME18-08BNSZC0S<br>IME18-08BPSZC0S |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |







### Accessories

- Connector, M12, 4-pin
- Mounting systems

| Technical specifications | IME18- | 08BNO ZC0S | 08BNO ZW2S | 08BNS ZC0S | 08BNS ZW2S | 08BPO ZC0S | 08BPO ZW2S | 08BPS ZC0S | 08BPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 8 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 | 1000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M18 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 | 40 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME18-08BN0ZC0S | 1040978 |
| IME18-08BN0ZW2S | 1040980 |
| IME18-08BNSZC0S | 1040974 |
| IME18-08BNSZW2S | 1040976 |
| IME18-08BP0ZC0S | 1040970 |
| IME18-08BP0ZW2S | 1040972 |
| IME18-08BPSZC0S | 1040966 |
| IME18-08BPSZW2S | 1040968 |

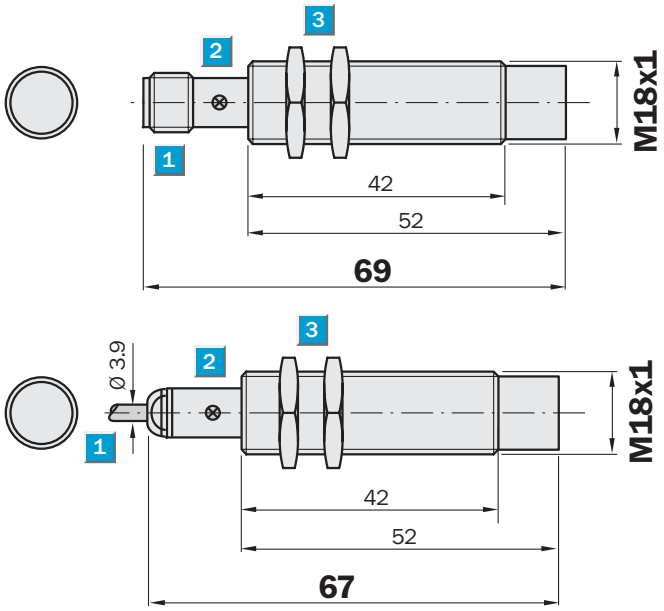
## Sensing range 12 mm

**Inductive sensor**

- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation non-flush



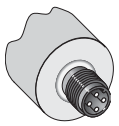
### Dimensional drawing



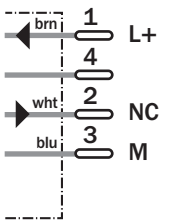

1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 24, metal

### Connection type

| | | |
|---|---|---|
| IME18-12NN0ZC0S | IME18-12NN0ZW2S | IME18-12NNSZC0S |
| IME18-12NP0ZC0S | IME18-12NNSZW2S | IME18-12NPSZC0S |
| | IME18-12NP0ZW2S | |
| | IME18-12NPSZW2S | |

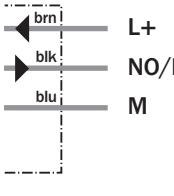


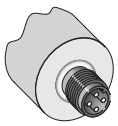
M12, 4-pin



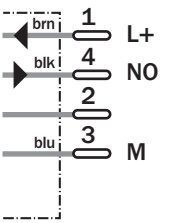



3 x 0.25 mm²



M12, 4-pin




### Accessories

- Connector, M12, 4-pin
- Mounting systems

| Technical specifications | IME18- | 12NNO ZC0S | 12NNO ZW2S | 12NNS ZC0S | 12NNS ZW2S | 12NPO ZC0S | 12NPO ZW2S | 12NPS ZC0S | 12NPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 12 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M12, 4-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 1000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M18 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 | 40 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME18-12NN0ZC0S | 1040994 |
| IME18-12NN0ZW2S | 1040996 |
| IME18-12NNSZC0S | 1040990 |
| IME18-12NNSZW2S | 1040992 |
| IME18-12NP0ZC0S | 1040986 |
| IME18-12NP0ZW2S | 1040988 |
| IME18-12NPSZC0S | 1040982 |
| IME18-12NPSZW2S | 1040984 |

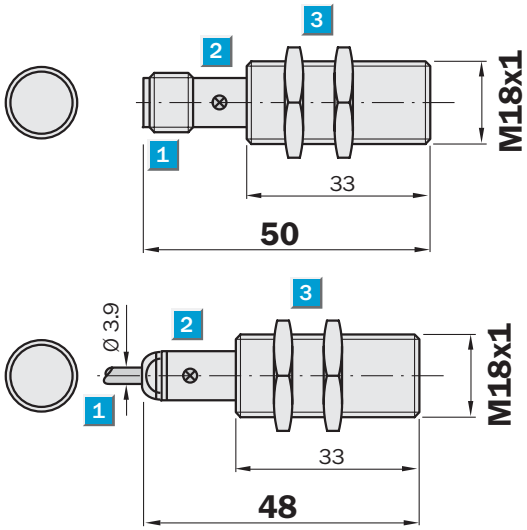
## Sensing range 8 mm

**Inductive sensor**

- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation flush

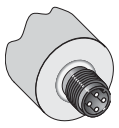
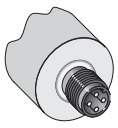
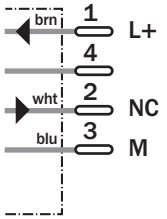
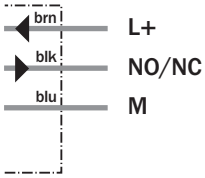
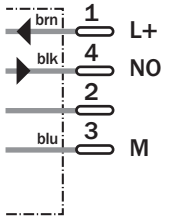


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 24, metal

### Connection type

| IME18-08BNOZC0K<br>IME18-08BPOZC0K | IME18-08BNOZW2K<br>IME18-08BNSZW2K<br>IME18-08BPOZW2K<br>IME18-08BPSZW2K | IME18-08BNSZC0K<br>IME18-08BPSZC0K |
|---|---|---|
|  |  |  |
| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|  |  |  |
| brn 1 L+<br>4<br>wht 2 NC<br>blu 3 M | brn L+<br>blk NO/NC<br>blu M | brn 1 L+<br>blk 4 NO<br>2<br>blu 3 M |

### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME18- | 08BNO ZC0K | 08BNO ZW2K | 08BNS ZC0K | 08BNS ZW2K | 08BPO ZC0K | 08BPO ZW2K | 08BPS ZC0K | 08BPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 8 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 | 1000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M18 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 | 40 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME18-08BN0ZC0K | 1040977 |
| IME18-08BN0ZW2K | 1040979 |
| IME18-08BNSZC0K | 1040973 |
| IME18-08BNSZW2K | 1040975 |
| IME18-08BP0ZC0K | 1040969 |
| IME18-08BP0ZW2K | 1040971 |
| IME18-08BPSZC0K | 1040965 |
| IME18-08BPSZW2K | 1040967 |

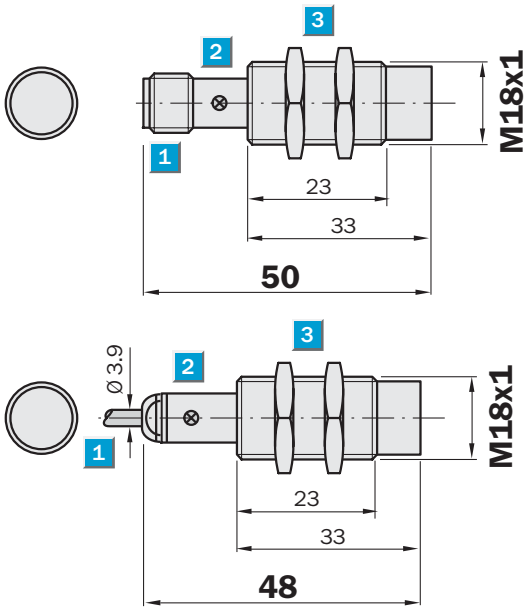
## Sensing range 12 mm

**Inductive sensor**

- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation non-flush



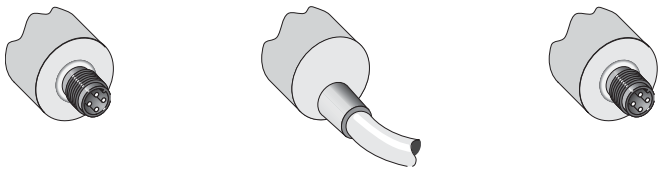
### Dimensional drawing



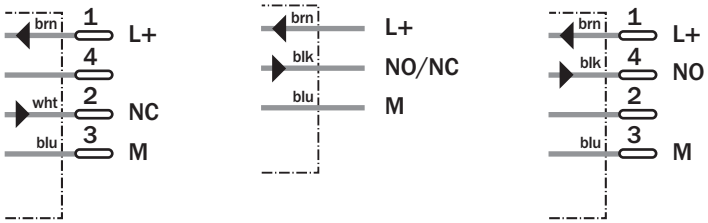

1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 24, metal

### Connection type

| | | |
|---|---|---|
| IME18-12NN0ZC0K | IME18-12NN0ZW2K | IME18-12NNSZC0K |
| IME18-12NP0ZC0K | IME18-12NNSZW2K | IME18-12NPSZC0K |
| | IME18-12NP0ZW2K | |
| | IME18-12NPSZW2K | |



| M12, 4-pin | 3 x 0.25 mm² | M12, 4-pin |
|---|---|---|




### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME18- | 12NNO ZC0K | 12NNO ZW2K | 12NNS ZC0K | 12NNS ZW2K | 12NPO ZC0K | 12NPO ZW2K | 12NPS ZC0K | 12NPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 12 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M12, 4-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 1000 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M18 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 | 40 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME18-12NNOZC0K | 1040993 |
| IME18-12NNOZW2K | 1040995 |
| IME18-12NNSZC0K | 1040989 |
| IME18-12NNSZW2K | 1040991 |
| IME18-12NPOZC0K | 1040985 |
| IME18-12NPOZW2K | 1040987 |
| IME18-12NPSZC0K | 1040981 |
| IME18-12NPSZW2K | 1040983 |

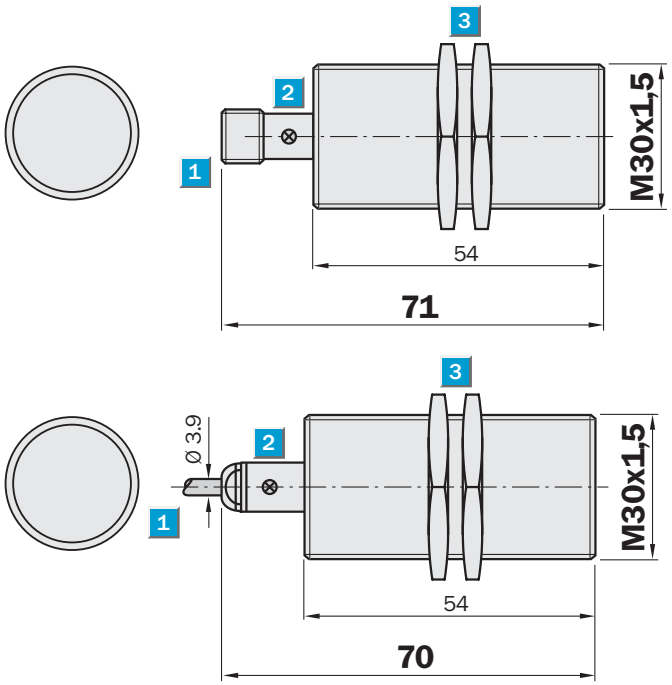
## Sensing range 10 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation flush

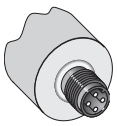
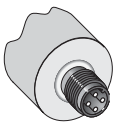
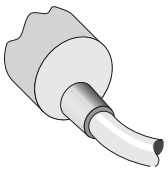
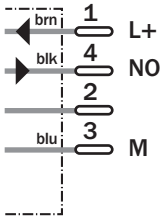
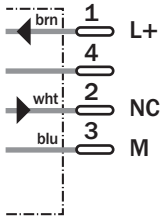
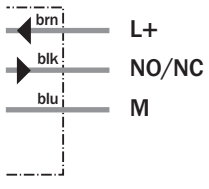


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 36, metal

### Connection type

| IME30-10BNSZC0S<br>IME30-10BPSZC0S | IME30-10BN0ZC0K<br>IME30-10BP0ZC0S | IME30-10BN0ZW2S<br>IME30-10BNSZW2S<br>IME30-10BP0ZW2S<br>IME30-10BPSZW2S |
|---|---|---|
|  |  |  |
| M12, 4-pin | M12, 4-pin | 3 x 0.5 mm² |
|  |  |  |



**Accessories**

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME30- | 10BNO ZC0K | 10BNO ZW2S | 10BNS ZC0S | 10BNS ZW2S | 10BPO ZC0S | 10BPO ZW2S | 10BPS ZC0S | 10BPS ZW2S | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 10 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 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 $t_v$ | ≤ 125 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 | 500 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Dimensions | M30 x 1.5[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 | 100 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Installation note**

Mounting based on non-ferromagnetic materials

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME30-10BN0ZC0K | 1041010 |
| IME30-10BN0ZW2S | 1041012 |
| IME30-10BNSZC0S | 1041006 |
| IME30-10BNSZW2S | 1041008 |
| IME30-10BP0ZC0S | 1041002 |
| IME30-10BP0ZW2S | 1041004 |
| IME30-10BPSZC0S | 1040998 |
| IME30-10BPSZW2S | 1041000 |

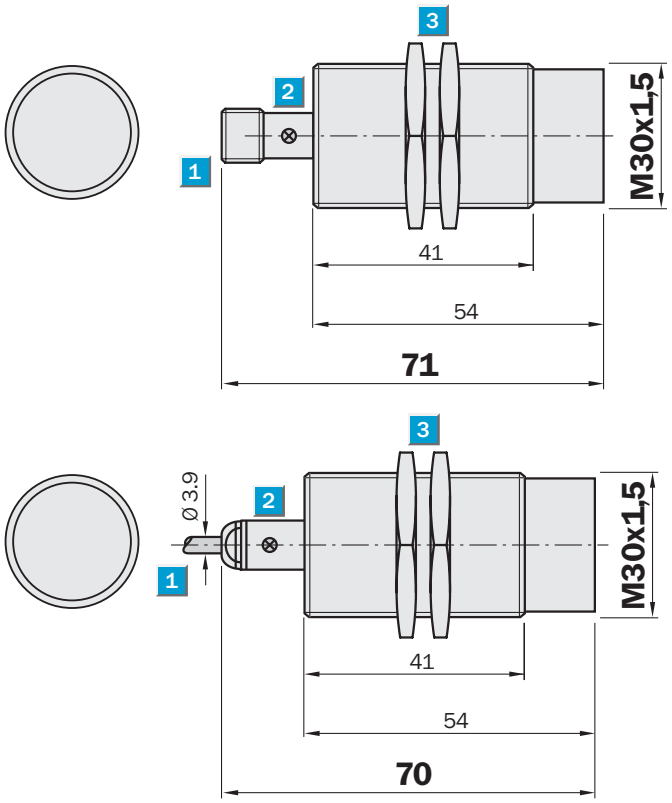
## Sensing range 15 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation non-flush

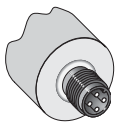
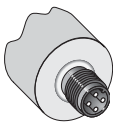
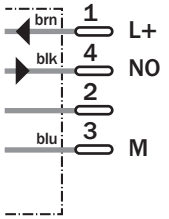
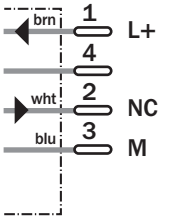
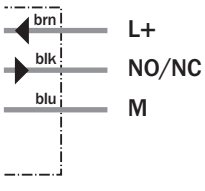


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 36, metal

### Connection type

| IME30-15NNSZC0S<br>IME30-15NPSZC0S | IME30-15NN0ZC0S<br>IME30-15NP0ZC0S | IME30-15NN0ZW2S<br>IME30-15NNSZW2S<br>IME30-15NP0ZW2S<br>IME30-15NPSZW2S |
|---|---|---|
|  |  |  |
| M12, 4-pin | M12, 4-pin | 3 x 0.5 mm² |
|  |  |  |



### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME30- | 15NNO ZC0S | 15NNO ZW2S | 15NNS ZC0S | 15NNS ZW2S | 15NPO ZC0S | 15NPO ZW2S | 15NPS ZC0S | 15NPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 15 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 $t_v$ | ≤ 125 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M12, 4-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 500 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M30 x 1.5[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 | 100 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Installation note**

Mounting based on non-ferromagnetic materials

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME30-15NNOZC0S | 1041026 |
| IME30-15NNOZW2S | 1041028 |
| IME30-15NNSZC0S | 1041022 |
| IME30-15NNSZW2S | 1041024 |
| IME30-15NPOZC0S | 1041018 |
| IME30-15NPOZW2S | 1041020 |
| IME30-15NPSZC0S | 1041014 |
| IME30-15NPSZW2S | 1041016 |

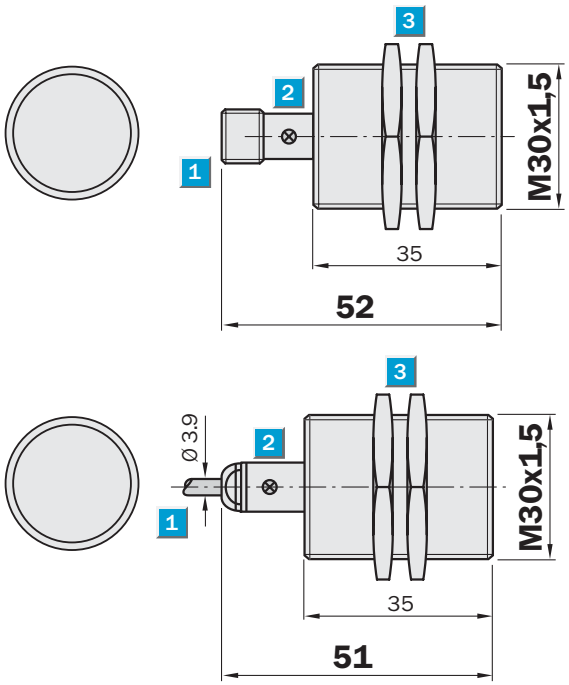
## Sensing range 10 mm

**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation flush

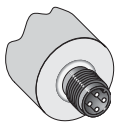
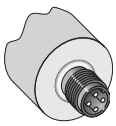
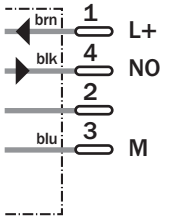
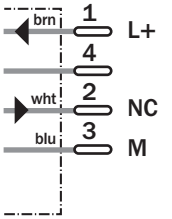
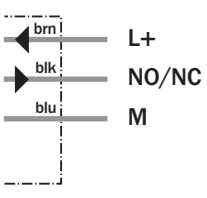


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 36, metal

### Connection type

| IME30-10BNSZC0K<br>IME30-10BPSZC0K | IME30-10BN0ZC0S<br>IME30-10BP0ZC0K | IME30-10BN0ZW2K<br>IME30-10BNSZW2K<br>IME30-10BP0ZW2K<br>IME30-10BPSZW2K |
|---|---|---|
|  |  |  |
| M12, 4-pin | M12, 4-pin | 3 x 0.5 mm² |
|  |  |  |



### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME30- | 10BNO ZC0S | 10BNO ZW2K | 10BNS ZC0K | 10BNS ZW2K | 10BPO ZC0K | 10BPO ZW2K | 10BPS ZC0K | 10BPS ZW2K | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 10 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 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 $t_v$ | ≤ 125 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 | 500 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Dimensions | M30 x 1.5[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 | 100 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Installation note**

Mounting based on non-ferromagnetic materials

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME30-10BN0ZC0S | 1041009 |
| IME30-10BN0ZW2K | 1041011 |
| IME30-10BNSZC0K | 1041005 |
| IME30-10BNSZW2K | 1041007 |
| IME30-10BP0ZC0K | 1041001 |
| IME30-10BP0ZW2K | 1041003 |
| IME30-10BPSZC0K | 1040997 |
| IME30-10BPSZW2K | 1040999 |

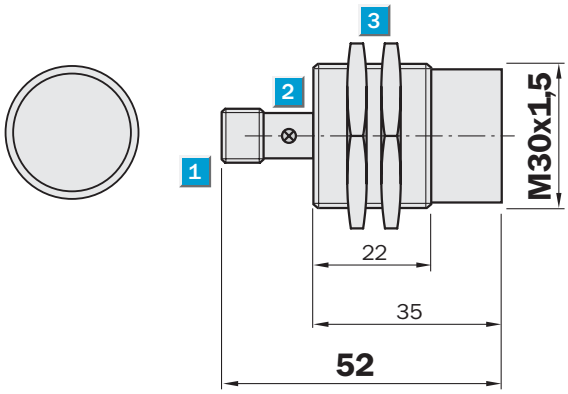
## Sensing range 15 mm

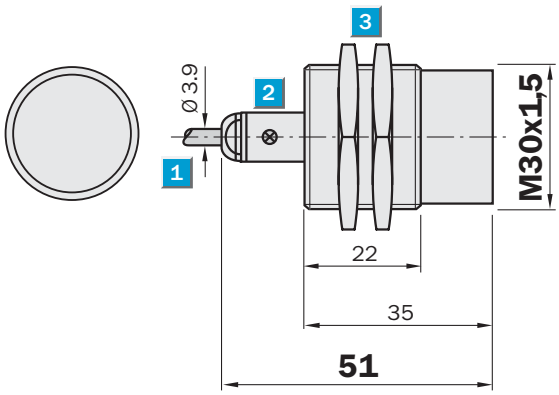
**Inductive sensor**

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation non-flush



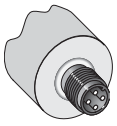
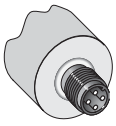
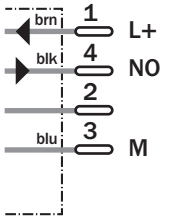
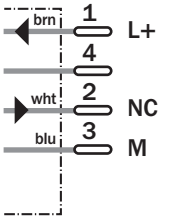
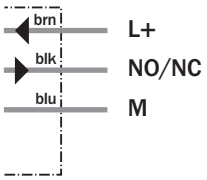
### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 36, metal

### Connection type

| IME30-15NNSZC0K<br>IME30-15NPSZC0K | IME30-15NNOZC0K<br>IME30-15NPOZC0K | IME30-15NNOZW2K<br>IME30-15NNSZW2K<br>IME30-15NPOZW2K<br>IME30-15NPSZW2K |
|---|---|---|
|  |  |  |
| M12, 4-pin | M12, 4-pin | 3 x 0.5 mm² |
|  |  |  |







### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME30- | 15NNO ZC0K | 15NNO ZW2K | 15NNS ZC0K | 15NNS ZW2K | 15NPO ZC0K | 15NPO ZW2K | 15NPS ZC0K | 15NPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 15 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 $t_v$ | ≤ 125 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M12, 4-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 500 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M30 x 1.5[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 | 100 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Installation note**

Mounting based on non-ferromagnetic materials

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME30-15NNOZC0K | 1041025 |
| IME30-15NNOZW2K | 1041027 |
| IME30-15NNSZC0K | 1041021 |
| IME30-15NNSZW2K | 1041023 |
| IME30-15NPOZC0K | 1041017 |
| IME30-15NPOZW2K | 1041019 |
| IME30-15NPSZC0K | 1041013 |
| IME30-15NPSZW2K | 1041015 |

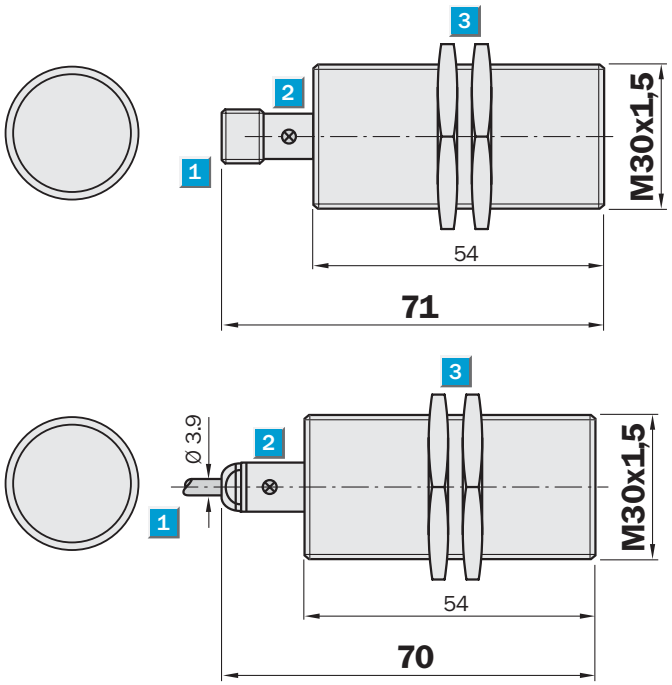
## Sensing range 15 mm

**Inductive sensor**

- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation flush

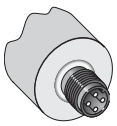
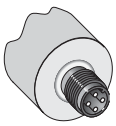
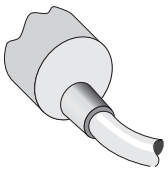
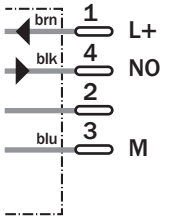
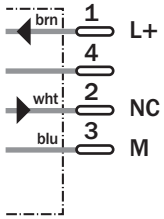
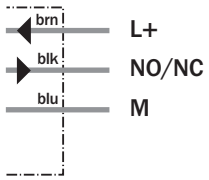


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 36, metal

### Connection type

| IME30-15BNSZC0S<br>IME30-15BPSZC0S | IME30-15BN0ZC0S<br>IME30-15BP0ZC0S | IME30-15BN0ZW2S<br>IME30-15BNSZW2S<br>IME30-15BP0ZW2S<br>IME30-15BPSZW2S |
|---|---|---|
|  |  |  |
| M12, 4-pin | M12, 4-pin | 3 x 0.5 mm² |
|  |  |  |



### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME30- | 15BNO ZC0S | 15BNO ZW2S | 15BNS ZC0S | 15BNS ZW2S | 15BPO ZC0S | 15BPO ZW2S | 15BPS ZC0S | 15BPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 15 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 $t_v$ | ≤ 125 ms | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Hysteresis H, of $s_r$ | 3 ... 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 | 500 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M30 x 1.5[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 | 100 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Installation note**

Mounting based on non-ferromagnetic materials

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME30-15BN0ZC0S | 1041042 |
| IME30-15BN0ZW2S | 1041044 |
| IME30-15BNSZC0S | 1041038 |
| IME30-15BNSZW2S | 1041040 |
| IME30-15BP0ZC0S | 1041034 |
| IME30-15BP0ZW2S | 1041036 |
| IME30-15BPSZC0S | 1041030 |
| IME30-15BPSZW2S | 1041032 |

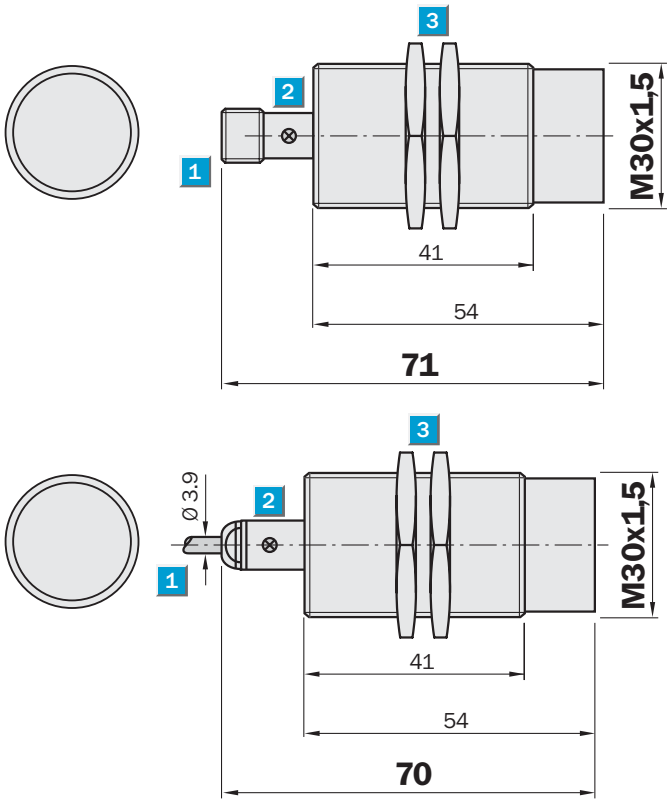
## Sensing range 20 mm

**Inductive sensor**

- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation non-flush

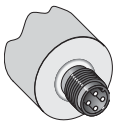
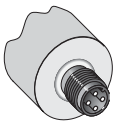
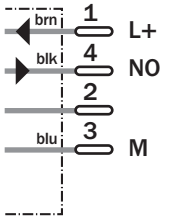
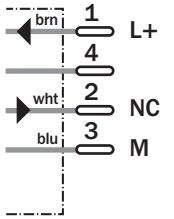
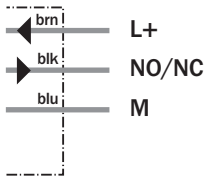


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 36, metal

### Connection type

| IME30-20NNSZC0S<br>IME30-20NPSZC0S | IME30-20NN0ZC0S<br>IME30-20NP0ZC0S | IME30-20NN0ZW2S<br>IME30-20NNSZW2S<br>IME30-20NP0ZW2S<br>IME30-20NPSZW2S |
|---|---|---|
|  |  |  |
| M12, 4-pin | M12, 4-pin | 3 x 0.5 mm² |
|  |  |  |



### Accessories

- Connector, M12, 4-pin
- Mounting systems

| Technical specifications | IME30- | 20NNO ZC0S | 20NNO ZW2S | 20NNS ZC0S | 20NNS ZW2S | 20NPO ZC0S | 20NPO ZW2S | 20NPS ZC0S | 20NPS ZW2S |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 20 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 $t_v$ | ≤ 125 ms | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Hysteresis H, of $s_r$ | 5 ... 15 % | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Repeatability R | Typ. 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M12, 4-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 500 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M30 x 1.5[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 | 100 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Installation note**

Mounting based on non-ferromagnetic materials

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME30-20NN0ZC0S | 1041058 |
| IME30-20NN0ZW2S | 1041060 |
| IME30-20NNSZC0S | 1041054 |
| IME30-20NNSZW2S | 1041056 |
| IME30-20NP0ZC0S | 1041050 |
| IME30-20NP0ZW2S | 1041052 |
| IME30-20NPSZC0S | 1041046 |
| IME30-20NPSZW2S | 1041048 |

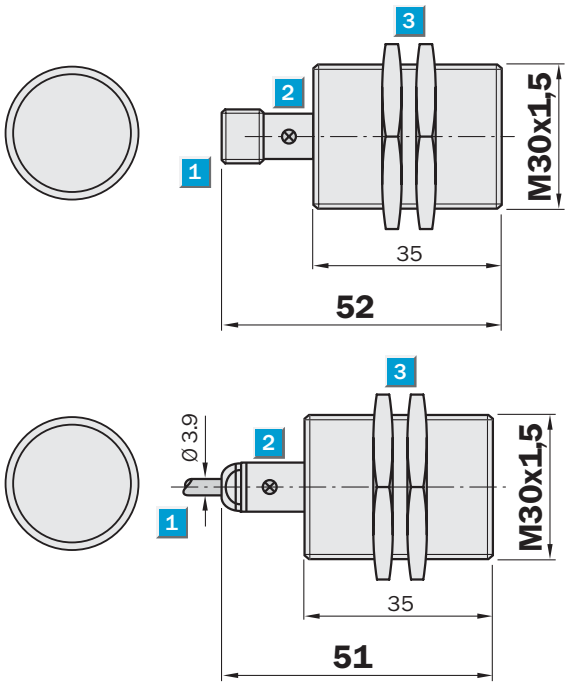
## Sensing range 15 mm

**Inductive sensor**

- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation flush

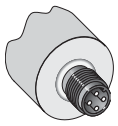
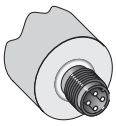
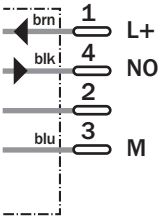
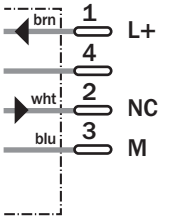
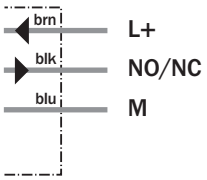


### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 36, metal

### Connection type

| IME30-15BNSZC0K<br>IME30-15BPSZC0K | IME30-15BN0ZC0K<br>IME30-15BP0ZC0K | IME30-15BN0ZW2K<br>IME30-15BNSZW2K<br>IME30-15BP0ZW2K<br>IME30-15BPSZW2K |
|---|---|---|
|  |  |  |
| M12, 4-pin | M12, 4-pin | 3 x 0.15 mm² |
|  |  |  |



**Accessories**

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME30- | 15BNO ZC0K | 15BNO ZW2K | 15BNS ZC0K | 15BNS ZW2K | 15BPO ZC0K | 15BPO ZW2K | 15BPS ZC0K | 15BPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 15 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 $t_v$ | ≤ 125 ms | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Hysteresis H, of $s_r$ | 3 ... 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 | 500 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M30 x 1.5[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 | 100 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Installation note**

Mounting based on non-ferromagnetic materials

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME30-15BN0ZC0K | 1041041 |
| IME30-15BN0ZW2K | 1041043 |
| IME30-15BNSZC0K | 1041037 |
| IME30-15BNSZW2K | 1041039 |
| IME30-15BP0ZC0K | 1041033 |
| IME30-15BP0ZW2K | 1041035 |
| IME30-15BPSZC0K | 1041029 |
| IME30-15BPSZW2K | 1041031 |

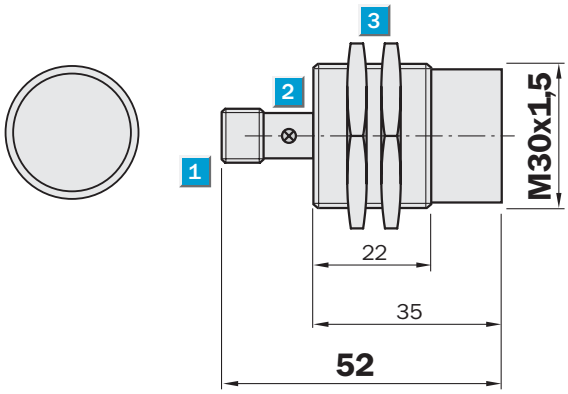
## Sensing range 20 mm

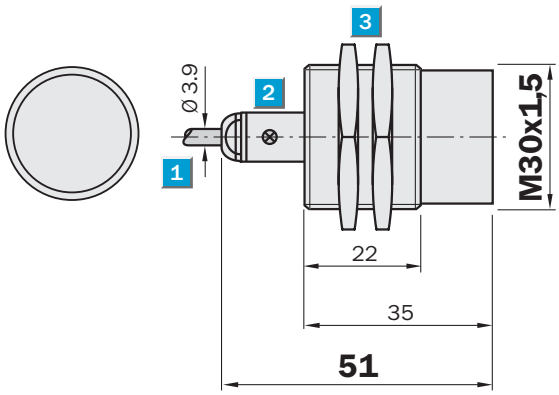
**Inductive sensor**

- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation non-flush



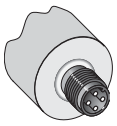
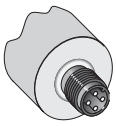
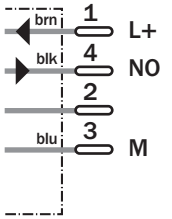
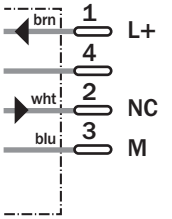
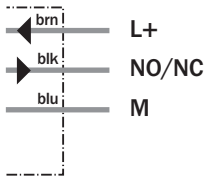
### Dimensional drawing




1 Connection
2 Display LED
3 Fastening nuts (2 x); width across 36, metal

### Connection type

| IME30-20NNSZC0K<br>IME30-20NPSZC0K | IME30-20NNOZC0K<br>IME30-20NPOZC0K | IME30-20NNOZW2K<br>IME30-20NNSZW2K<br>IME30-20NPOZW2K<br>IME30-20NPSZW2K |
|---|---|---|
|  |  |  |
| M12, 4-pin | M12, 4-pin | 3 x 0.5 mm² |
|  |  |  |







### Accessories

Connector, M12, 4-pin
Mounting systems

| Technical specifications | IME30- | 20NNO ZC0K | 20NNO ZW2K | 20NNS ZC0K | 20NNS ZW2K | 20NPO ZC0K | 20NPO ZW2K | 20NPS ZC0K | 20NPS ZW2K |
|---|---|---|---|---|---|---|---|---|---|
| **Sensing range $S_n$** | 20 mm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Electrical configuration** | DC3-wire | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Supply voltage $V_S$** | DC 10 ... 30 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Nominal voltage $V_n$ | DC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 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 $t_v$ | ≤ 125 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** | Non-flush | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Connection type** | Connector, M12, 4-pin | ■ | | ■ | | ■ | | ■ | |
| | Cable, PVC, 2 m | | ■ | | ■ | | ■ | | ■ |
| **Enclosure rating** | IP 67[4] | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Max. switching frequency | 500 Hz | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimensions | M30 x 1.5[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 | 100 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 steal (V2A) | Approx. 0.8 |
| Aluminum (solid) | Approx. 0.45 |
| Copper (Cu) | Approx. 0.4 |

**Installation note**

Mounting based on non-ferromagnetic materials

| Ordering information | |
|---|---|
| **Type** | **Part Number** |
| IME30-20NNOZC0K | 1041057 |
| IME30-20NNOZW2K | 1041059 |
| IME30-20NNSZC0K | 1041053 |
| IME30-20NNSZW2K | 1041055 |
| IME30-20NPOZC0K | 1041049 |
| IME30-20NPOZW2K | 1041051 |
| IME30-20NPSZC0K | 1041045 |
| IME30-20NPSZW2K | 1041047 |

**Connecting cables PVC**

**Round connectors**

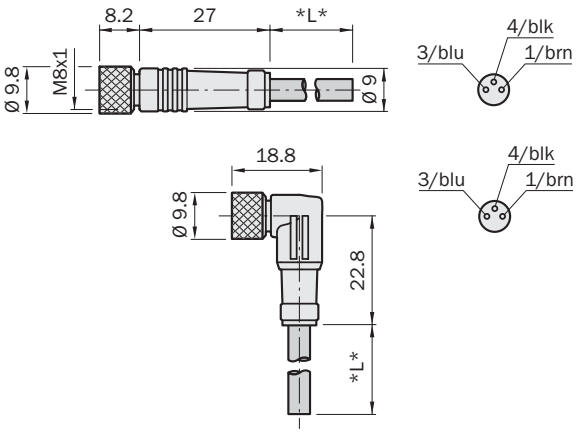
- Gold plated pins
- Self locking threaded
- Conditional resistance to chemicals and oils
- Especially suitable for use in assembly, packaging and production lines
- Enclosure rating IP 68 (M12)/IP 67 (M8) (only in fully locked position with its plugs)



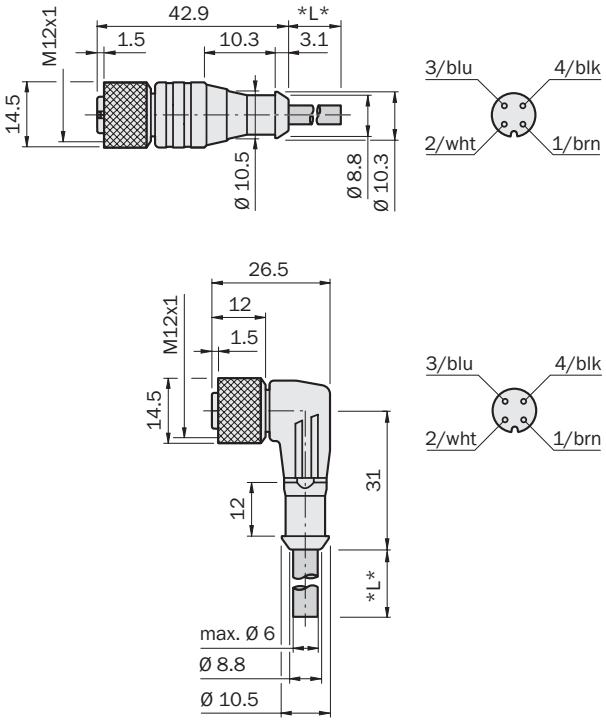
(for M8-connector in preparation)

## Dimensional drawings

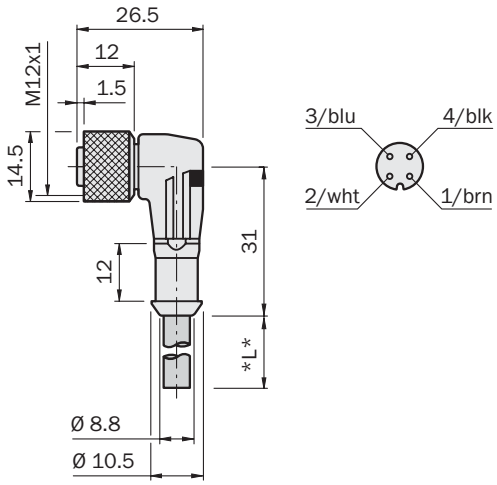
DOL-08...




DOL-12...




DOL-1204-L...




| Contacts | Wire colour |
|---|---|
| 1 | brown |
| 2 | white |
| 3 | blue |
| 4 | black |
| 5 | grey |

1) Minimum bend radius in dynamic use
$R_{min}$ = 20 x cable diameter

## Technical data

| | | |
|---|---|---|
| **Nominal voltage $V_n$** | 60 V AC/75 V DC (M8-connector) | |
| | 250 V AC/300 V DC (M12, 4-pin-connector) | |
| | 30 V AC/36 V DC (M12, 5-pin-connector) | |
| | 10 ... 30 V DC (M12, LED-indicator) | |
| **Contact resistance** | ≤ 5 mΩ | |
| **Nominal power** | 4 A (CSA = 3 A) | |
| **Testvoltage** | 2.0 kV eff./60 s. (M12, 4-pin-connector) | |
| | 1.5 kV eff./60 s. (M8-connector and M12, 5-pin) | |
| **Insulation group** | C acc. VDE 0110 | |
| **Insulation resistance** | > $10^9$ Ω | |
| **Temperature range** | In fixed position | –40 °C ... +80 °C |
| | In flexible motion | +5 °C ... +80 °C |
| **Bending radius** | > 10 x diameter of cable (in flexible motion) | |
| | 5 x diameter of cable (in fixed position) | |
| **Contact** | CuZn, 0.3 µm gold plated | |
| **Locking nut** | CuZn, brass nickeled | |
| **Cable** | PVC, colour orange | |
| **Conductor diameter** | 3 x 0.34 mm² | |
| | 4 x 0.25 mm² | |
| | 5 x 0.5 mm² | |
| **Connector** | TPU, colour orange | |

## Order information

**Round connectors M8 connecting cable , PVC**

| Type | Order no. | Description | | Contacts | Cable length [m] |
|---|---|---|---|---|---|
| DOL-0803-G02M | 6010785 | Female connector | straight | 3 | 2 |
| DOL-0803-G05M | 6022010 | Female connector | straight | 3 | 5 |
| DOL-0803-G10M | 6022011 | Female connector | straight | 3 | 10 |
| DOL-0803-W02M | 6008489 | Female connector | angled | 3 | 2 |
| DOL-0803-W05M | 6022009 | Female connector | angled | 3 | 5 |
| DOL-0803-W10M | 6022012 | Female connector | angled | 3 | 10 |
| DOL-0804-G02M | 6009870 | Female connector | straight | 4 | 2 |
| DOL-0804-G05M | 6009872 | Female connector | straight | 4 | 5 |
| DOL-0804-G10M | 6010754 | Female connector | straight | 4 | 10 |
| DOL-0804-W02M | 6009871 | Female connector | angled | 4 | 2 |
| DOL-0804-W05M | 6009873 | Female connector | angled | 4 | 5 |
| DOL-0804-W10M | 6010755 | Female connector | angled | 4 | 10 |

**Round connectors M12 connecting cable, PVC**

| Type | Order no. | Description | | Contacts | Cable length [m] |
|---|---|---|---|---|---|
| DOL-1204-G02M | 6009382 | Female connector | straight | 4 | 2 |
| DOL-1204-G05M | 6009866 | Female connector | straight | 4 | 5 |
| DOL-1204-G10M | 6010543 | Female connector | straight | 4 | 10 |
| DOL-1204-G15M | 6010753 | Female connector | straight | 4 | 15 |
| DOL-1204-W02M | 6009383 | Female connector | angled | 4 | 2 |
| DOL-1204-W05M | 6009867 | Female connector | angled | 4 | 5 |
| DOL-1204-W10M | 6010541 | Female connector | angled | 4 | 10 |
| DOL-1204-L02M | 6027945 | Female connector | angled LED (PNP) | 4 | 2 |
| DOL-1204-L05M | 6027944 | Female connector | angled LED (PNP) | 4 | 5 |
| DOL-1204-L10M | 6027946 | Female connector | angled LED (PNP) | 4 | 10 |
| DOL-1205-G02M | 6008899 | Female connector | straight | 5 | 2 |
| DOL-1205-G05M | 6009868 | Female connector | straight | 5 | 5 |
| DOL-1205-G10M | 6010544 | Female connector | straight | 5 | 10 |
| DOL-1205-W02M | 6008900 | Female connector | angled | 5 | 2 |
| DOL-1205-W05M | 6009869 | Female connector | angled | 5 | 5 |
| DOL-1205-W10M | 6010542 | Female connector | angled | 5 | 10 |
| DOL-1205-G05MX | 6010474 | Female connector | straight (shielded PIN 5) | 5 | 5 |

**Connecting cables PUR halogenfree**

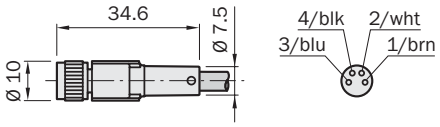
**Round connectors**

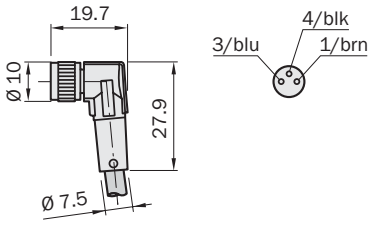
- Gold plated pins
- Halogenfree, PVC-free, silicone-free-cable
- Flame-retardant IEC 332-2
- Resisting to coolants and lubricants
- Suitable for use with drag chains
- Resistant against hydrolysis
- Enclosure rating IP 67 (M8)/IP 68 (M12) (only in fully locked position with its plugs)



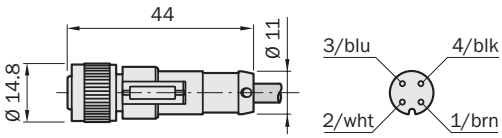
## Dimensional drawings

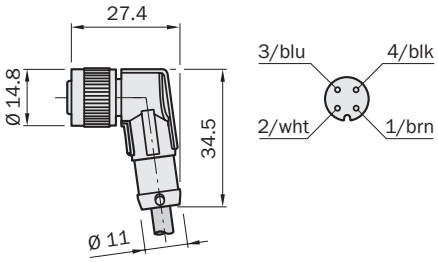
DOL-08...




DOL-12...




| Contacts | Wire colour |
|---|---|
| 1 | brown |
| 2 | white |
| 3 | blue |
| 4 | black |
| 5 | grey |

1) Minimum bend radius in dynamic use
$R_{min}$ = 20 x cable diameter

## Technical data

| | | |
|---|---|---|
| **Nominal voltage $V_n$** | 60 V AC/75 V DC (M8-connector) | |
| | 250 V AC/300 V DC (M12, 4-pin-connector) | |
| | 30 V AC/36 V DC (M12, 5-pin-connector) | |
| **Contact resistance** | ≤ 5 mΩ | |
| **Nominal power** | 4 A (CSA = 3 A) | |
| **Insulation group** | C acc. VDE0110 | |
| **Insulation resistance** | > $10^9$ Ω | |
| **Temperature range** | In fixed position | –40 °C ... +80 °C |
| | In flexible motion | –5 °C ... +80 °C |
| **Bending radius** | > 10 x diameter of cable | |
| **Guaranteed bending cycles** | ≤ 2 million (at bend radius r = 60 mm) | |
| **Max. allowed speed up** | 8.6 m/sec$^2$ | |
| **Max. speed** | 90 m/min (for 2 m horizontal path) | |
| **Contact** | CuZn, gold plated | |
| **Cable** | Colour black, PUR halogenfree | |
| **Conductor diameter** | 3 x 0.25 mm$^2$ (M8) | |
| | 4 x 0.25 mm$^2$ (M8), 4 x 0.34 mm$^2$ (M12) | |
| | 5 x 0.34 mm$^2$ | |
| **Connector** | Colour black, TPU | |

## Order information

**Round connectors M8 connecting cable PUR halogenfree**

| Type | Order no. | Description | | Contacts | Cable length [m] |
|---|---|---|---|---|---|
| DOL-0803-G02MC | 6025888 | Female connector | straight | 3 | 2 |
| DOL-0803-G05MC | 6025889 | Female connector | straight | 3 | 5 |
| DOL-0803-G10MC | 6025890 | Female connector | straight | 3 | 10 |
| DOL-0803-W02MC | 6025891 | Female connector | angled | 3 | 2 |
| DOL-0803-W05MC | 6025892 | Female connector | angled | 3 | 5 |
| DOL-0803-W10MC | 6025893 | Female connector | angled | 3 | 10 |
| DOL-0804-G02MC | 6025894 | Female connector | straight | 4 | 2 |
| DOL-0804-G05MC | 6025895 | Female connector | straight | 4 | 5 |
| DOL-0804-G10MC | 6025896 | Female connector | straight | 4 | 10 |
| DOL-0804-W02MC | 6025897 | Female connector | angled | 4 | 2 |
| DOL-0804-W05MC | 6025898 | Female connector | angled | 4 | 5 |
| DOL-0804-W10MC | 6025899 | Female connector | angled | 4 | 10 |

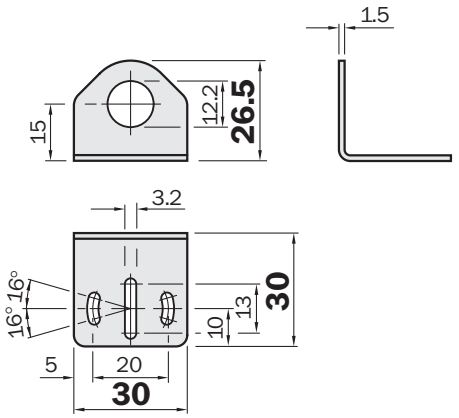
**Round connectors M12 connecting cable PUR halogenfree**

| | | Description | | Contacts | Cable length [m] |
|---|---|---|---|---|---|
| DOL-1204-G02MC | 6025900 | Female connector | straight | 4 | 2 |
| DOL-1204-G05MC | 6025901 | Female connector | straight | 4 | 5 |
| DOL-1204-G10MC | 6025902 | Female connector | straight | 4 | 10 |
| DOL-1204-W02MC | 6025903 | Female connector | angled | 4 | 2 |
| DOL-1204-W05MC | 6025904 | Female connector | angled | 4 | 5 |
| DOL-1204-W10MC | 6025905 | Female connector | angled | 4 | 10 |
| STL-1204-G02MC | 6028077 | Male connector | straight | 4 | 2 |
| DOL-1205-G02MC | 6025906 | Female connector | straight | 5 | 2 |
| DOL-1205-G05MC | 6025907 | Female connector | straight | 5 | 5 |
| DOL-1205-G10MC | 6025908 | Female connector | straight | 5 | 10 |
| DOL-1205-W02MC | 6025909 | Female connector | angled | 5 | 2 |
| DOL-1205-W05MC | 6025910 | Female connector | angled | 5 | 5 |
| DOL-1205-W10MC | 6025911 | Female connector | angled | 5 | 10 |

## Dimensional drawings and order information

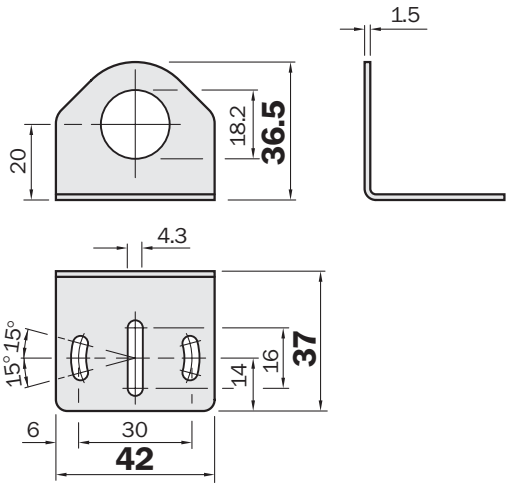
### Mounting bracket for IME12

| Type | Order no. |
|---|---|
| BEF-WN-M12 | 5308447 |



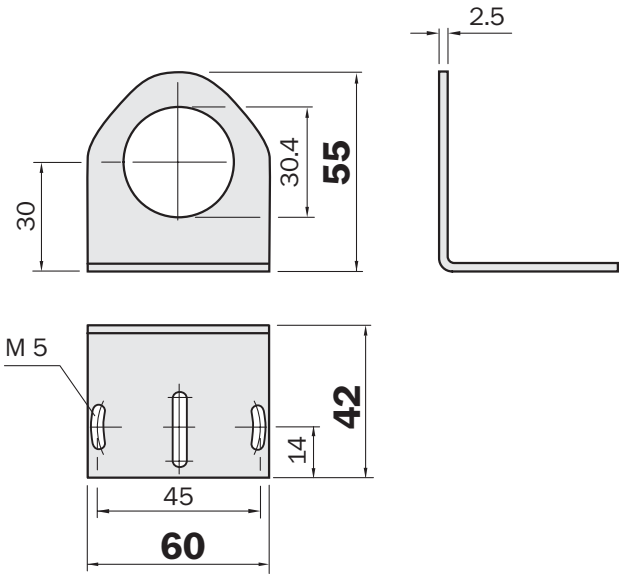

### Mounting bracket for IME18

| Type | Order no. |
|---|---|
| BEF-WN-M18 | 5308446 |



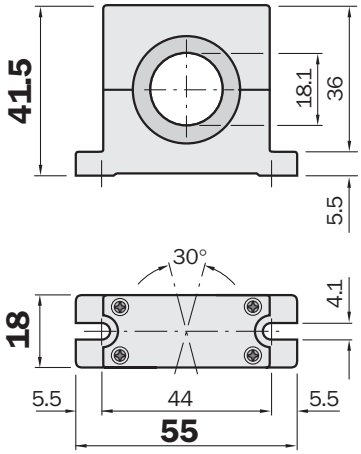

### Mounting bracket for IME30

| Type | Order no. |
|---|---|
| BEF-WN-M30 | 5308445 |




### Mounting bracket for IME18

| Type | Order no. |
|---|---|
| BEF-WN-M18-ST02 | 5312973 |



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