



## Inductive sensors IME

Dependable for industrial applications

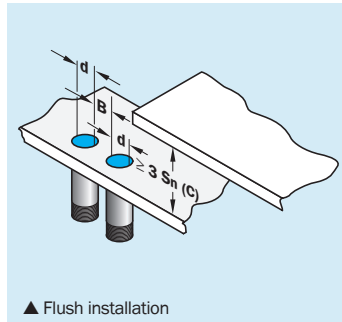
## Installation notes

### 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:



#### 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       |

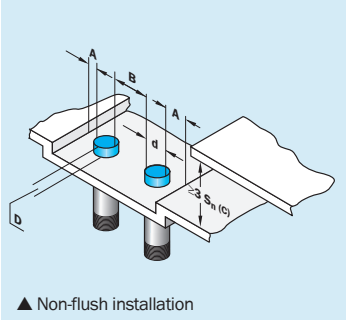
d = Outer diameter of the sensor

# 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:

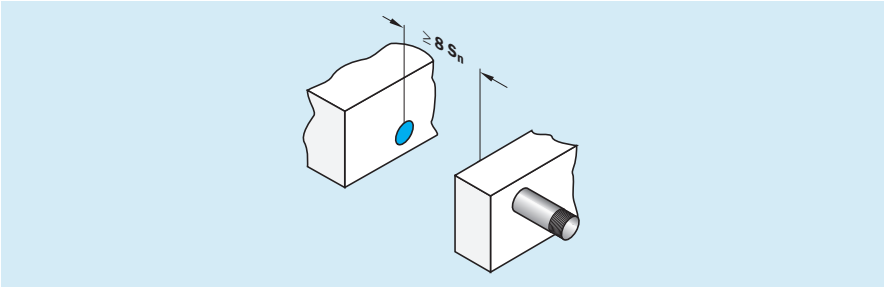
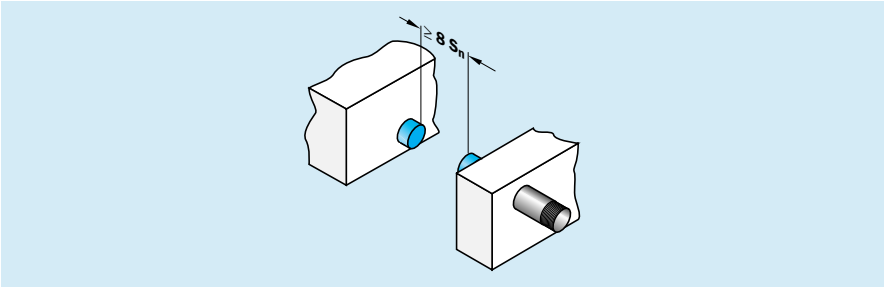


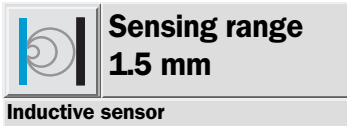
d = Outer diameter of the sensor

| 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 |

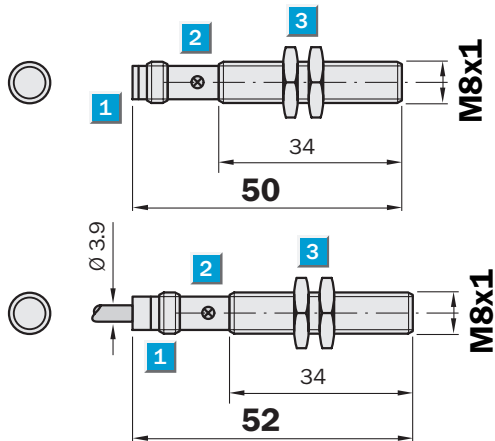
Opposite installation in metal





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

## Dimensional drawing

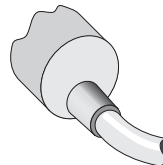
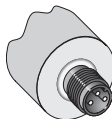


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 13, metal



## Connection type

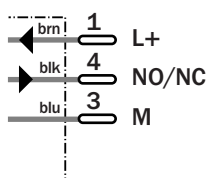
|                 |                 |
|-----------------|-----------------|
| IME08-1B5NOZTOS | IME08-1B5NOZW2S |
| IME08-1B5NSZTOS | IME08-1B5NSZW2S |
| IME08-1B5POZTOS | IME08-1B5POZW2S |
| IME08-1B5PSZTOS | IME08-1B5PSZW2S |



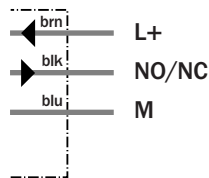
## Accessories

Connector, M8, 3-pin

M8, 3-pin



3 x 0.14 mm<sup>2</sup>



| Technical specifications                   |                                                    | IME08- | 1B5NO<br>ZT0S | 1B5NO<br>ZW2S | 1B5NS<br>ZT0S | 1B5NS<br>ZW2S | 1B5PO<br>ZT0S | 1B5PO<br>ZW2S | 1B5PS<br>ZT0S | 1B5PS<br>ZW2S |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 1.5 mm                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                       |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                            |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                              |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                              |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                        |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M8, 3-pin                               |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

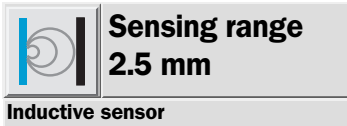
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

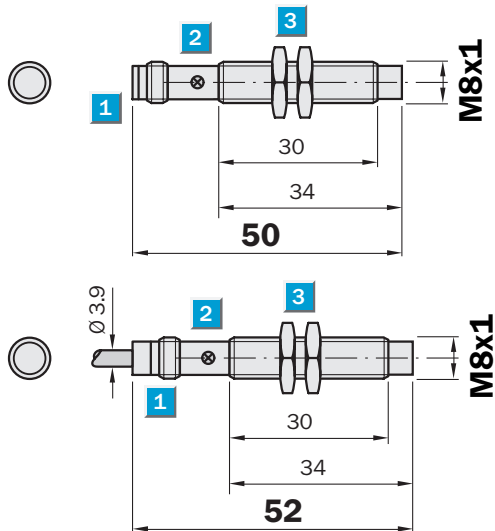
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME08-1B5NOZT0S | 1040850     |
| IME08-1B5NOZW2S | 1040852     |
| IME08-1B5NSZT0S | 1040846     |
| IME08-1B5NSZW2S | 1040848     |
| IME08-1B5POZT0S | 1040842     |
| IME08-1B5POZW2S | 1040844     |
| IME08-1B5PSZT0S | 1040838     |
| IME08-1B5PSZW2S | 1040840     |



- 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

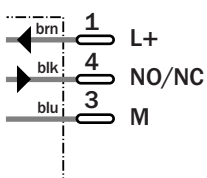
|                 |                 |
|-----------------|-----------------|
| IME08-2N5NOZT0S | IME08-2N5NOZW2S |
| IME08-2N5NSZT0S | IME08-2N5NSZW2S |
| IME08-2N5POZT0S | IME08-2N5POZW2S |
| IME08-2N5PSZT0S | IME08-2N5PSZW2S |



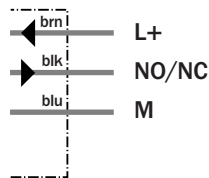
## Accessories

Connector, M8, 3-pin

M8, 3-pin



3 x 0.14 mm<sup>2</sup>



| Technical specifications                   |                                                    | IME08- | 2N5N<br>OZT0S | 2N5NO<br>ZW2S | 2N5NS<br>ZT0S | 2N5NS<br>ZW2S | 2N5PO<br>ZT0S | 2N5PO<br>ZW2S | 2N5PS<br>ZT0S | 2N5PS<br>ZW2S |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 2.5 mm                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                       |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                            |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                              |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                              |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                        |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M8, 3-pin                               |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

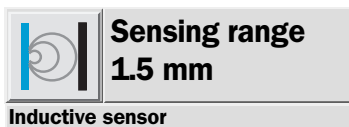
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|                       |              |
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| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

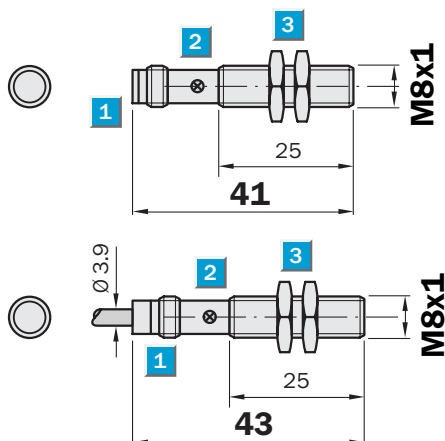
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME08-2N5NOZT0S | 1040866     |
| IME08-2N5NOZW2S | 1040868     |
| IME08-2N5NSZT0S | 1040862     |
| IME08-2N5NSZW2S | 1040864     |
| IME08-2N5POZT0S | 1040858     |
| IME08-2N5POZW2S | 1040860     |
| IME08-2N5PSZT0S | 1040854     |
| IME08-2N5PSZW2S | 1040856     |



- 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

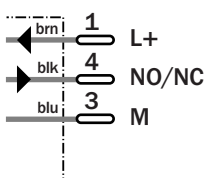
|                 |                 |
|-----------------|-----------------|
| IME08-1B5NOZTOK | IME08-1B5NOZW2K |
| IME08-1B5NSTOK  | IME08-1B5NSZW2K |
| IME08-1B5POZTOK | IME08-1B5POZW2K |
| IME08-1B5PSZTOK | IME08-1B5PSZW2K |



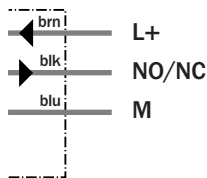
## Accessories

Connector, M8, 3-pin

M8, 3-pin



3 x 0.14 mm²



| Technical specifications                   |                                                    | IME08- | 1B5NO<br>ZTOK | 1B5NO<br>ZW2K | 1B5NS<br>ZTOK | 1B5NS<br>ZW2K | 1B5PO<br>ZTOK | 1B5PO<br>ZW2K | 1B5PS<br>ZTOK | 1B5PS<br>ZW2K |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 1.5 mm                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                       |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                            |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                              |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                              |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                        |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M8, 3-pin                               |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

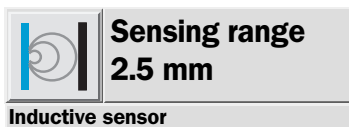
#### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

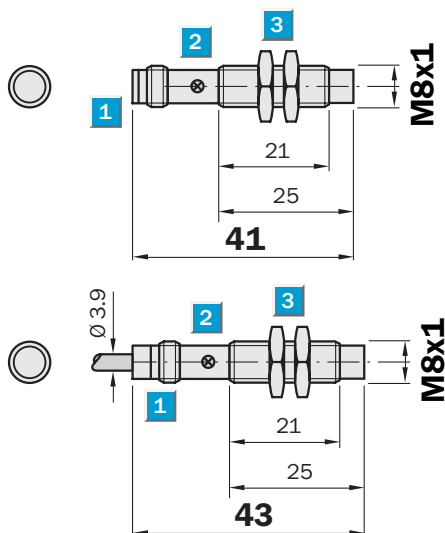
#### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME08-1B5NOZTOK | 1040849     |
| IME08-1B5NOZW2K | 1040851     |
| IME08-1B5NSZTOK | 1040845     |
| IME08-1B5NSZW2K | 1040847     |
| IME08-1B5POZTOK | 1040841     |
| IME08-1B5POZW2K | 1040843     |
| IME08-1B5PSZTOK | 1040837     |
| IME08-1B5PSZW2K | 1040839     |



- 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

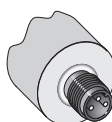


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 13, metal

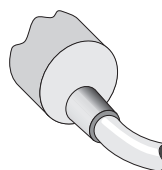


## Connection type

|                 |                 |
|-----------------|-----------------|
| IME08-2N5NOZTOK | IME08-2N5NOZW2K |
| IME08-2N5NSZTOK | IME08-2N5NSZW2K |
| IME08-2N5POZTOK | IME08-2N5POZW2K |
| IME08-2N5PSZTOK | IME08-2N5PSZW2K |



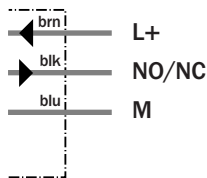
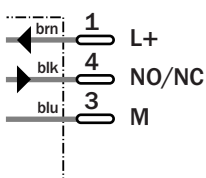
M8, 3-pin



3 x 0.14 mm<sup>2</sup>

## Accessories

Connector, M8, 3-pin



| Technical specifications                   |                                                    | IME08- | 2N5NO<br>ZT0K | 2N5NO<br>ZW2K | 2N5NS<br>ZT0K | 2N5NS<br>ZW2K | 2N5PO<br>ZT0K | 2N5PO<br>ZW2K | 2N5PS<br>ZT0K | 2N5PS<br>ZW2K |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 2.5 mm                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10\%$                                        |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2\text{ V}^{1)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10\text{ mA}^{2)}$                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200\text{ mA}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100\text{ ms}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10\%$                                         |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M8, 3-pin                               |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

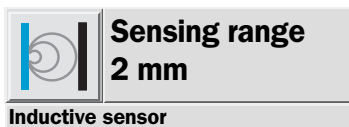
#### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

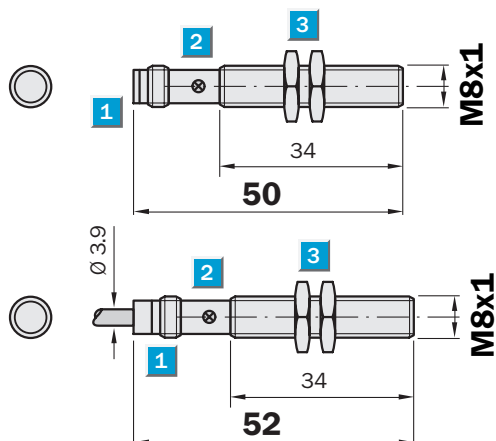
#### Ordering information

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



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

## Dimensional drawing



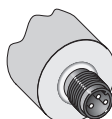
- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 13, metal



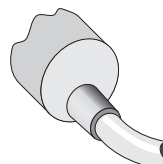
## Connection type

IME08-02BNOZTOS  
IME08-02BNSZTOS  
IME08-02BPOZTOS  
IME08-02BPSZTOS

IME08-02BNOZW2S  
IME08-02BNSZW2S  
IME08-02BPOZW2S  
IME08-02BPSZW2S



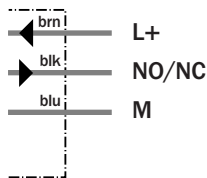
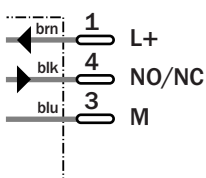
M8, 3-pin



3 x 0.14 mm²

## Accessories

Connector, M8, 3-pin



| Technical specifications                   |                                                    | IME08- | 02BNO<br>ZTOS | 02BNO<br>ZW2S | 02BNS<br>ZTOS | 02BNS<br>ZW2S | 02BPO<br>ZTOS | 02BPO<br>ZW2S | 02BPS<br>ZTOS | 02BPS<br>ZW2S |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 2 mm                                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10\%$                                        |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2\text{ V}^{1)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10\text{ mA}^{2)}$                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200\text{ mA}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100\text{ ms}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10\%$                                         |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M8, 3-pin                               |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

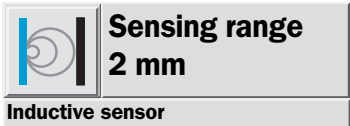
#### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

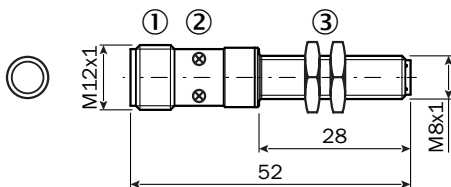
#### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME08-02BNOZTOS | 1040882     |
| IME08-02BNOZW2S | 1040884     |
| IME08-02BNSZTOS | 1040878     |
| IME08-02BNSZW2S | 1040880     |
| IME08-02BPOZTOS | 1040874     |
| IME08-02BPOZW2S | 1040876     |
| IME08-02BPSZTOS | 1040870     |
| IME08-02BPSZW2S | 1040872     |



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

Dimensional drawing

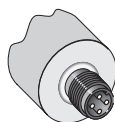
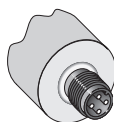


- ① Connection
- ② Display LED
- ③ Fastening nuts (2 x); width across 13, metal



Connection type

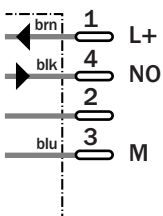
|                 |                 |
|-----------------|-----------------|
| IME08-02BNSZC0S | IME08-02BPOZC0S |
| IME08-02BPSZC0S |                 |
| IME08-1B5PSVC0S |                 |



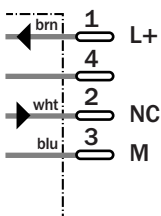
Accessories

Connector, M12, 4-pin

M12, 4-pin



M12, 4-pin



| Technical specifications                   |                                                    | IME08- | 02BNS<br>ZC0S | 02BPS<br>ZC0S | 02BPO<br>ZC0S | 1B5PS<br>VC0S |  |  |  |  |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|--|--|--|--|--|--|
| <b>Sensing range <math>S_n</math></b>      | 2 mm                                               |        |               |               |               |               |  |  |  |  |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |  |  |  |  |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |  |  |  |  |  |  |
| Ripple $U_{pp}$                            | $\leq 10\%$                                        |        |               |               |               |               |  |  |  |  |  |  |
| Voltage drop $U_d$                         | $\leq 2\text{ V}^{1)}$                             |        |               |               |               |               |  |  |  |  |  |  |
| Power consumption                          | $\leq 10\text{ mA}^{2)}$                           |        |               |               |               |               |  |  |  |  |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200\text{ mA}$                               |        |               |               |               |               |  |  |  |  |  |  |
| Time delay before availability $t_v$       | $\leq 100\text{ ms}$                               |        |               |               |               |               |  |  |  |  |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |  |  |  |  |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |  |  |  |  |  |  |
| Temperature drift, of $s_r$                | $\pm 10\%$                                         |        |               |               |               |               |  |  |  |  |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |  |  |  |  |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |  |  |  |  |  |  |
|                                            | PNP                                                |        |               |               |               |               |  |  |  |  |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |  |  |  |  |  |  |
|                                            | Normally open                                      |        |               |               |               |               |  |  |  |  |  |  |
| <b>Installation</b>                        | Flush                                              |        |               |               |               |               |  |  |  |  |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                              |        |               |               |               |               |  |  |  |  |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |  |  |  |  |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |               |               |  |  |  |  |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |               |               |  |  |  |  |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |  |  |  |  |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |  |  |  |  |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |  |  |  |  |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |  |  |  |  |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |  |  |  |  |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |  |  |  |  |  |  |
|                                            | Stainless steel, plastic (PA6)                     |        |               |               |               |               |  |  |  |  |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |               |               |  |  |  |  |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |  |  |  |  |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |  |  |  |  |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |  |  |  |  |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

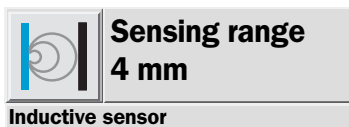
#### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

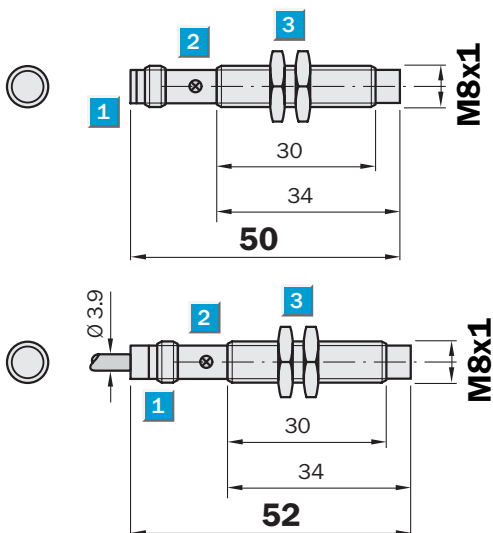
#### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME08-02BNSZC0S | 1051127     |
| IME08-02BPSZC0S | 1051205     |
| IME08-02BPOZC0S | 1051207     |
| IME08-1B5PSVC0S | 1051740     |



- 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

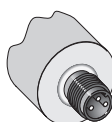


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 13, metal

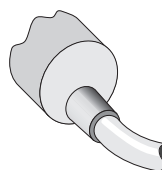


#### Connection type

|                 |                 |
|-----------------|-----------------|
| IME08-04NNOZTOS | IME08-04NNOZW2S |
| IME08-04NNSZTOS | IME08-04NNSZW2S |
| IME08-04NPOZTOS | IME08-04NPOZW2S |
| IME08-04NPSZTOS | IME08-04NPSZW2S |



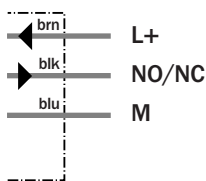
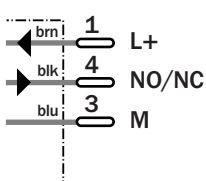
M8, 3-pin



3 x 0.14 mm<sup>2</sup>

#### Accessories

Connector, M8, 3-pin



| Technical specifications                   |                                                    | IME08- | 04NNO<br>ZT0S | 04NNO<br>ZW2S | 04NNS<br>ZT0S | 04NNS<br>ZW2S | 04NPO<br>ZT0S | 04NPO<br>ZW2S | 04NPS<br>ZT0S | 04NPS<br>ZW2S |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 4 mm                                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10\%$                                        |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2\text{ V}^{1)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10\text{ mA}^{2)}$                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200\text{ mA}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100\text{ ms}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10\%$                                         |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M8, 3-pin                               |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

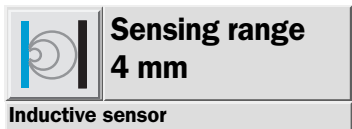
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

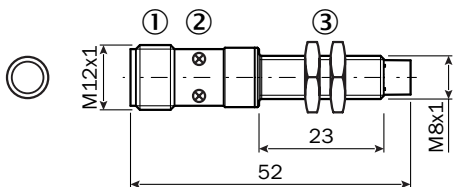
### Ordering information

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



- 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



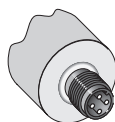
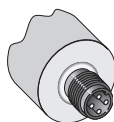
- ① Connection  
② Display LED  
③ Fastening nuts (2 x); width across 13, metal



Connection type

IME08-04NPOZC0S

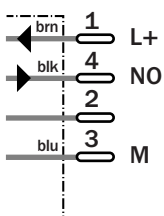
IME08-04NPOZC0S



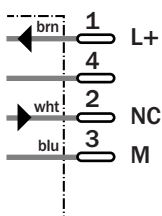
Accessories

Connector, M12, 4-pin

M12, 4-pin



M12, 4-pin



| Technical specifications                   |                                                    | IME08- | 04NPO<br>ZC0S | 04NPS<br>ZC0S |  |  |  |  |  |  |  |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|--|--|--|--|--|--|--|--|--|
| <b>Sensing range <math>S_n</math></b>      | 4 mm                                               |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |  |  |  |  |  |  |  |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                       |        |               |               |  |  |  |  |  |  |  |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                            |        |               |               |  |  |  |  |  |  |  |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                          |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                              |        |               |               |  |  |  |  |  |  |  |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                              |        |               |               |  |  |  |  |  |  |  |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |  |  |  |  |  |  |  |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |  |  |  |  |  |  |  |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                        |        |               |               |  |  |  |  |  |  |  |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Switching output</b>                    | PNP                                                |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |  |  |  |  |  |  |  |  |  |
|                                            | Normally open                                      |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Installation</b>                        | Non-flush                                          |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                              |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |  |  |  |  |  |  |  |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |  |  |  |  |  |  |  |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |  |  |  |  |  |  |  |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |  |  |  |  |  |  |  |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |  |  |  |  |  |  |  |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |  |  |  |  |  |  |  |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |  |  |  |  |  |  |  |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |  |  |  |  |  |  |  |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |  |  |  |  |  |  |  |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load  
<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529  
<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

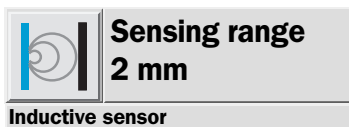
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

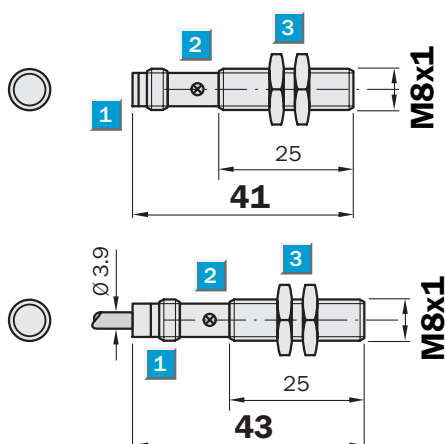
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME08-04NPOZC0S | 1051208     |
| IME08-04NPSZC0S | 1051209     |



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

#### Dimensional drawing

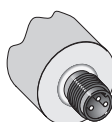


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 13, metal

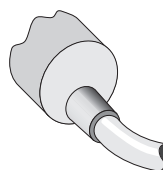


#### Connection type

|                 |                 |
|-----------------|-----------------|
| IME08-02BNOZTOK | IME08-02BNOZW2K |
| IME08-02BNSZTOK | IME08-02BNSZW2K |
| IME08-02BPOZTOK | IME08-02BPOZW2K |
| IME08-02BPSZTOK | IME08-02BPSZW2K |



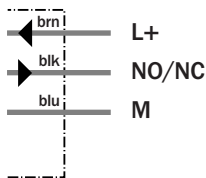
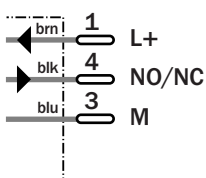
M8, 3-pin



3 x 0.14 mm<sup>2</sup>

#### Accessories

Connector, M8, 3-pin



| Technical specifications                   |                                                    | IME08- | 02BNO<br>ZTOK | 02BNO<br>ZW2K | 02BNS<br>ZTOK | 02BNS<br>ZW2K | 02BPO<br>ZTOK | 02BPO<br>ZW2K | 02BPS<br>ZTOK | 02BPS<br>ZW2K |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 2 mm                                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10\%$                                        |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2\text{ V}^{1)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10\text{ mA}^{2)}$                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200\text{ mA}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100\text{ ms}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10\%$                                         |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M8, 3-pin                               |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

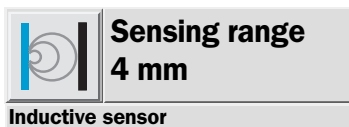
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

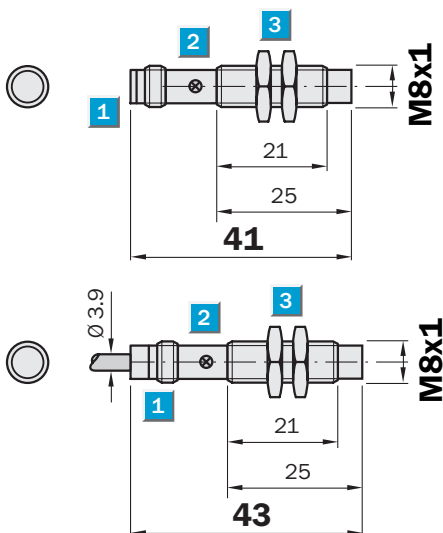
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME08-02BNOZTOK | 1040881     |
| IME08-02BNOZW2K | 1040883     |
| IME08-02BNSZTOK | 1040877     |
| IME08-02BNSZW2K | 1040879     |
| IME08-02BPOZTOK | 1040873     |
| IME08-02BPOZW2K | 1040875     |
| IME08-02BPSZTOK | 1040869     |
| IME08-02BPSZW2K | 1040871     |



- 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

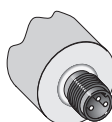


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 13, metal

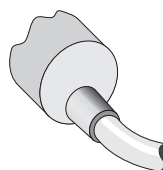


#### Connection type

|                 |                 |
|-----------------|-----------------|
| IME08-04NNOZTOK | IME08-04NNOZW2K |
| IME08-04NNSZTOK | IME08-04NNSZW2K |
| IME08-04NPOZTOK | IME08-04NPOZW2K |
| IME08-04NPSZTOK | IME08-04NPSZW2K |



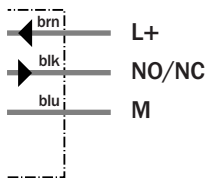
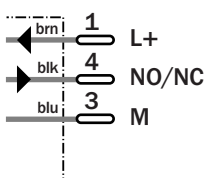
M8, 3-pin



3 x 0.14 mm<sup>2</sup>

#### Accessories

Connector, M8, 3-pin



| Technical specifications                   |                                                    | IME08- | 04NNO<br>ZTOK | 04NNO<br>ZW2K | 04NNS<br>ZTOK | 04NNS<br>ZW2K | 04NPO<br>ZTOK | 04NPO<br>ZW2K | 04NPS<br>ZTOK | 04NPS<br>ZW2K |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 4 mm                                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10\%$                                        |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2\text{ V}^{1)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10\text{ mA}^{2)}$                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200\text{ mA}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100\text{ ms}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10\%$                                         |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M8, 3-pin                               |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 4000 Hz                                            |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M8 x 1 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 5 Nm                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

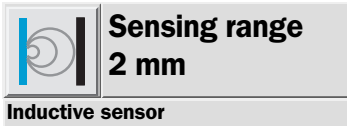
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

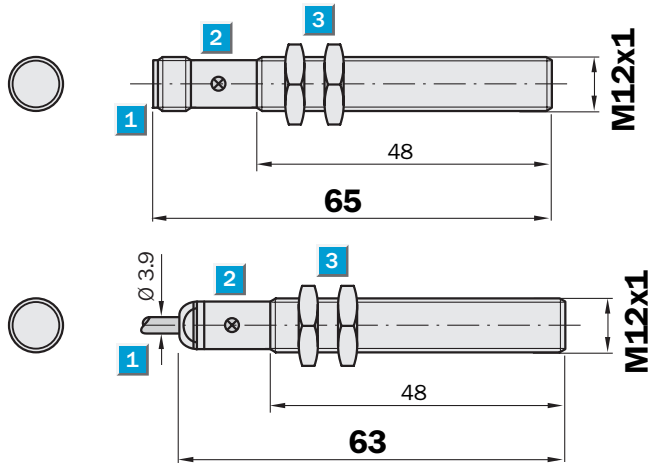
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME08-04NNOZTOK | 1040897     |
| IME08-04NNOZW2K | 1040899     |
| IME08-04NNSZTOK | 1040893     |
| IME08-04NNSZW2K | 1040895     |
| IME08-04NPOZTOK | 1040889     |
| IME08-04NPOZW2K | 1040891     |
| IME08-04NPSZTOK | 1040885     |
| IME08-04NPSZW2K | 1040887     |



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

Dimensional drawing

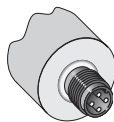


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal

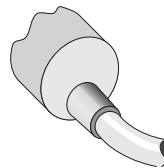
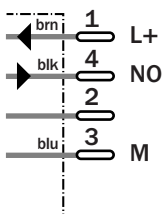


Connection type

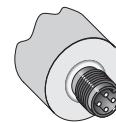
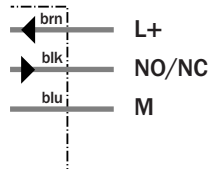
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME12-02BNSZC0S | IME12-02BNOZW2S | IME12-02BNOZC0S |
| IME12-02BPSZC0S | IME12-02BNSZW2S | IME12-02BPOZC0S |
|                 | IME12-02BPOZW2S |                 |
|                 | IME12-02BPSZW2S |                 |



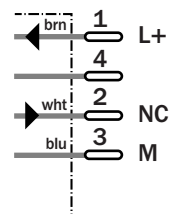
M12, 4-pin



3 x 0.25 mm<sup>2</sup>



M12, 4-pin



Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                        | IME12- | 02BNO<br>ZC0S | 02BNO<br>ZW2S | 02BNS<br>ZC0S | 02BNS<br>ZW2S | 02BPO<br>ZC0S | 02BPO<br>ZW2S | 02BPS<br>ZC0S | 02BPS<br>ZW2S |  |  |
|--------------------------------------------|--------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 2 mm                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                         |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{(1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{(2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                  |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                  |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                             |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>(3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                            |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                        |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                  |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                        |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>(4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 2000 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M12 x 1 <sup>(5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>(6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                      |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                         |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                     |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 12 Nm                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                        |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                               |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                           |        |               |               |               |               |               |               |               |               |  |  |

<sup>(1)</sup> At  $I_a$  max  
<sup>(2)</sup> Without load

<sup>(3)</sup> Of  $s_r$   
<sup>(4)</sup> According to EN 60529

<sup>(5)</sup> Thread diameter x pitch (mm)  
<sup>(6)</sup> (Pulsed)

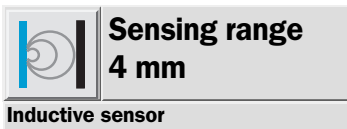
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

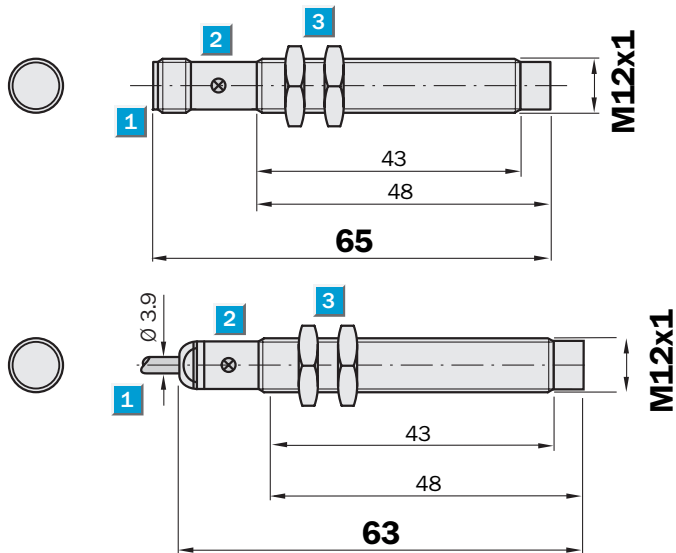
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME12-02BNOZC0S | 1040743     |
| IME12-02BNOZW2S | 1040746     |
| IME12-02BNSZC0S | 1040740     |
| IME12-02BNSZW2S | 1040742     |
| IME12-02BPOZC0S | 1040736     |
| IME12-02BPOZW2S | 1040738     |
| IME12-02BPSZC0S | 1040732     |
| IME12-02BPSZW2S | 1040734     |



- 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

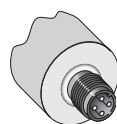


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal

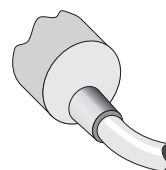
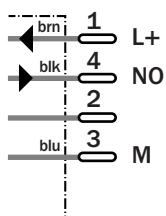


## Connection type

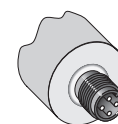
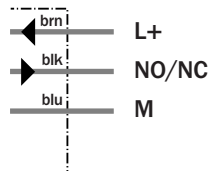
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME12-04NNSZC0S | IME12-04NNOZW2S | IME12-04NNOZC0S |
| IME12-04NPSZC0S | IME12-04NNSZW2S | IME12-04NPOZC0S |
|                 | IME12-04NPOZW2S |                 |
|                 | IME12-04NPSZW2S |                 |



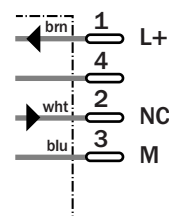
M12, 4-pin



3 x 0.25 mm²



M12, 4-pin



## Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME12- | 04NNO<br>ZC0S | 04NNO<br>ZW2S | 04NNS<br>ZC0S | 04NNS<br>ZW2S | 04NPO<br>ZC0S | 04NPO<br>ZW2S | 04NPS<br>ZC0S | 04NPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 4 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 2000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M12 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 12 Nm                                            |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

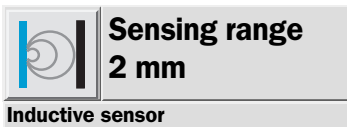
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

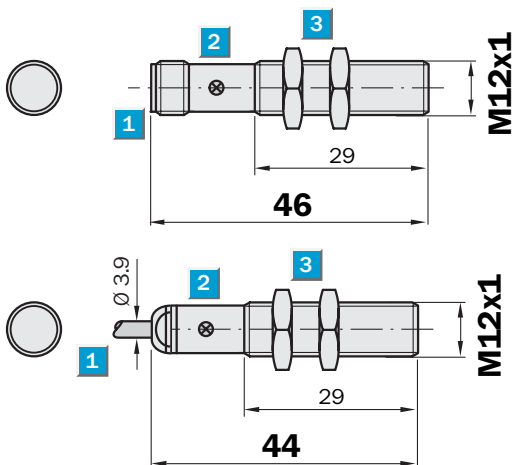
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME12-04NNOZC0S | 1040760     |
| IME12-04NNOZW2S | 1040762     |
| IME12-04NNSZC0S | 1040756     |
| IME12-04NNSZW2S | 1040757     |
| IME12-04NPOZC0S | 1040752     |
| IME12-04NPOZW2S | 1040754     |
| IME12-04NPSZC0S | 1040748     |
| IME12-04NPSZW2S | 1040750     |



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

## Dimensional drawing

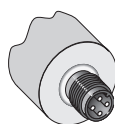


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal

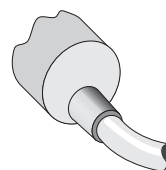
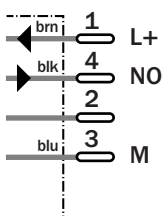


## Connection type

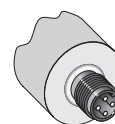
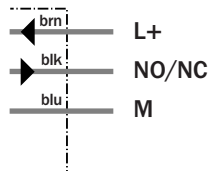
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME12-02BNSZCOK | IME12-02BNOZW2K | IME12-02BNOZCOK |
| IME12-02BPSZCOK | IME12-02BNSZW2K | IME12-02BPOZCOK |
|                 | IME12-02BPOZW2K |                 |
|                 | IME12-02BPSZW2K |                 |



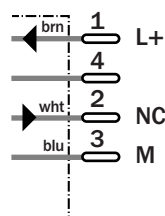
M12, 4-pin



3 x 0.25 mm²



M12, 4-pin



## Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                        | IME12- | 02BNO<br>ZCOK | 02BNO<br>ZW2K | 02BNS<br>ZCOK | 02BNS<br>ZW2K | 02BPO<br>ZCOK | 02BPO<br>ZW2K | 02BPS<br>ZCOK | 02BPS<br>ZW2K |  |  |
|--------------------------------------------|--------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 2 mm                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                         |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{(1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{(2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                  |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                  |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                             |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>(3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                            |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                        |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                  |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                        |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>(4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 2000 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M12 x 1 <sup>(5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>(6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                      |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                         |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                     |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 12 Nm                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                        |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                               |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                           |        |               |               |               |               |               |               |               |               |  |  |

<sup>(1)</sup> At  $I_a$  max  
<sup>(2)</sup> Without load

<sup>(3)</sup> Of  $s_r$   
<sup>(4)</sup> According to EN 60529

<sup>(5)</sup> Thread diameter x pitch (mm)  
<sup>(6)</sup> (Pulsed)

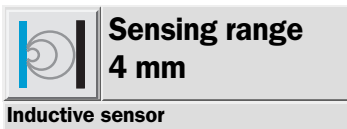
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

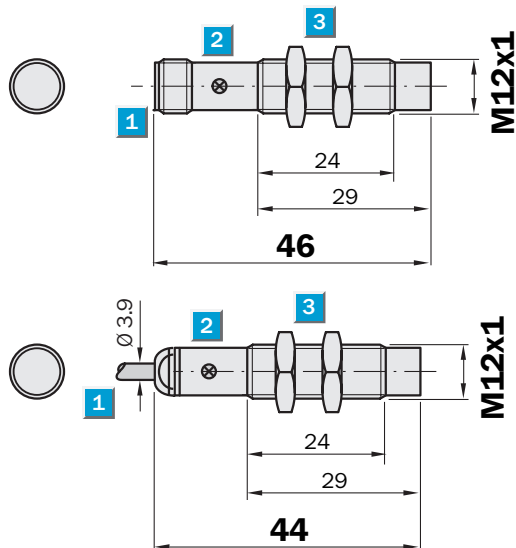
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME12-02BNOZCOK | 1040744     |
| IME12-02BNOZW2K | 1040745     |
| IME12-02BNSZCOK | 1040739     |
| IME12-02BNSZW2K | 1040741     |
| IME12-02BPOZCOK | 1040735     |
| IME12-02BPOZW2K | 1040737     |
| IME12-02BPSZCOK | 1040731     |
| IME12-02BPSZW2K | 1040733     |



- 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

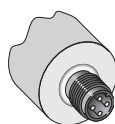


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal

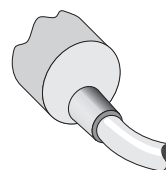
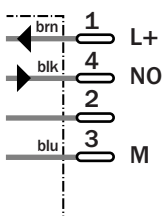


## Connection type

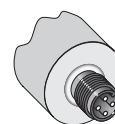
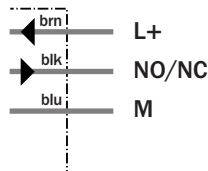
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME12-04NNSZCOK | IME12-04NNOZW2K | IME12-04NNOZCOK |
| IME12-04NPSZCOK | IME12-04NNSZW2K | IME12-04NPOZCOK |
|                 | IME12-04NPOZW2K |                 |
|                 | IME12-04NPSZW2K |                 |



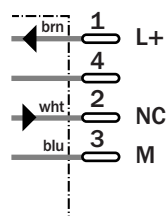
M12, 4-pin



3 x 0.25 mm<sup>2</sup>



M12, 4-pin



## Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME12- | 04NNO<br>ZCOK | 04NNO<br>ZW2K | 04NNS<br>ZCOK | 04NNS<br>ZW2K | 04NPO<br>ZCOK | 04NPO<br>ZW2K | 04NPS<br>ZCOK | 04NPS<br>ZW2K |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 4 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 2000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M12 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 12 Nm                                            |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

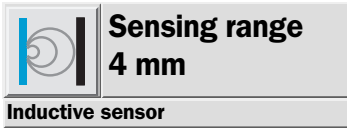
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

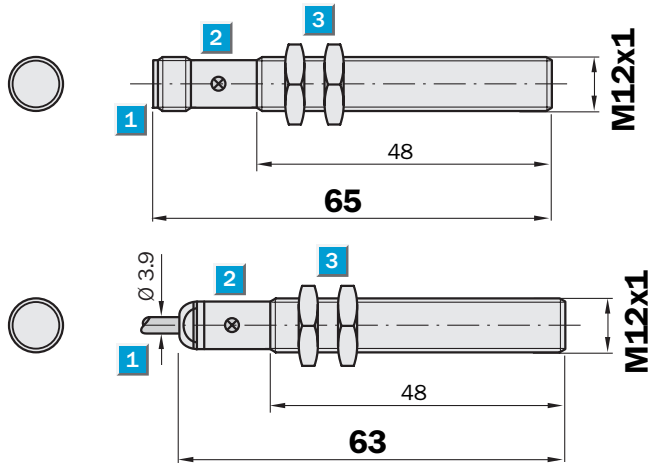
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME12-04NNOZCOK | 1040759     |
| IME12-04NNOZW2K | 1040761     |
| IME12-04NNSZCOK | 1040755     |
| IME12-04NNSZW2K | 1040758     |
| IME12-04NPOZCOK | 1040751     |
| IME12-04NPOZW2K | 1040753     |
| IME12-04NPSZCOK | 1040747     |
| IME12-04NPSZW2K | 1040749     |



- 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

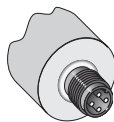


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal

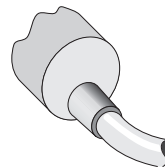
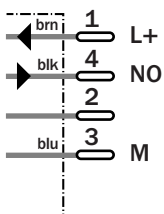


Connection type

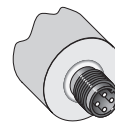
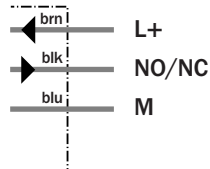
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME12-04BNSZC0S | IME12-04BN0ZW2S | IME12-04BN0ZC0S |
| IM12E-04BPSZC0S | IME12-04BNSZW2S | IME12-04BPOZC0S |
|                 | IME12-04BPOZW2S |                 |
|                 | IME12-04BPSZW2S |                 |



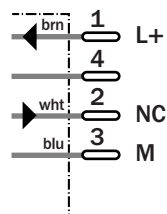
M12, 4-pin



3 x 0.25 mm<sup>2</sup>



M12, 4-pin



#### Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME12- | 04BNO<br>ZC0S | 04BNO<br>ZW2S | 04BNS<br>ZC0S | 04BNS<br>ZW2S | 04BPO<br>ZC0S | 04BPO<br>ZW2S | 04BPS<br>ZC0S | 04BPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 4 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 2000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M12 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 12 Nm                                            |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

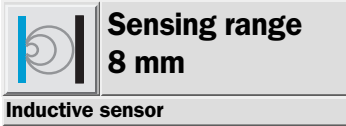
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

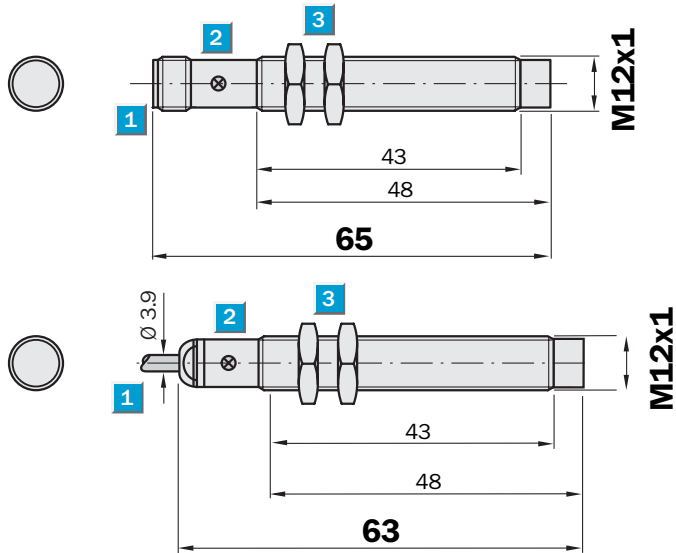
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME12-04BNOZC0S | 1040776     |
| IME12-04BNOZW2S | 1040778     |
| IME12-04BNSZC0S | 1040772     |
| IME12-04BNSZW2S | 1040774     |
| IME12-04BPOZC0S | 1040768     |
| IME12-04BPOZW2S | 1040770     |
| IME12-04BPSZC0S | 1040764     |
| IME12-04BPSZW2S | 1040766     |



- 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

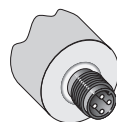


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal

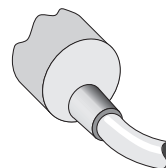
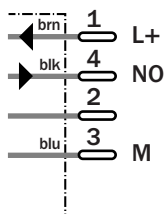


#### Connection type

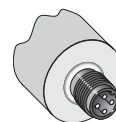
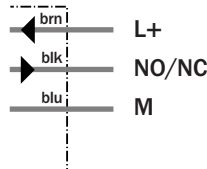
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME12-08NNSZC0S | IME12-08NNOZW2S | IME12-08NNOZC0S |
| IME12-08NPSZC0S | IME12-08NNSZW2S | IME12-08NPOZC0S |
|                 | IME12-08NPOZW2S |                 |
|                 | IME12-08NPSZW2S |                 |



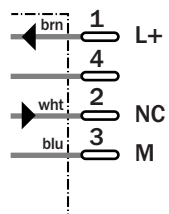
M12, 4-pin



3 x 0.25 mm<sup>2</sup>



M12, 4-pin



#### Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME12- | 08NNO<br>ZC0S | 08NNO<br>ZW2S | 08NNS<br>ZC0S | 08NNS<br>ZW2S | 08NPO<br>ZC0S | 08NPO<br>ZW2S | 08NPS<br>ZC0S | 08NPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 8 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 2000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M12 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 12 Nm                                            |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

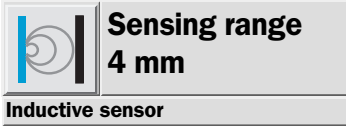
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

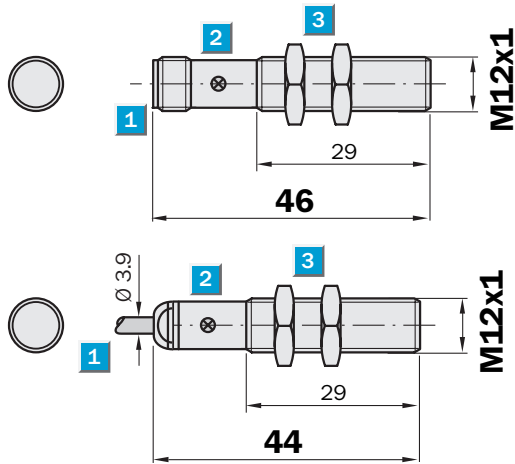
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME12-08NNOZC0S | 1040826     |
| IME12-08NNOZW2S | 1040793     |
| IME12-08NNSZC0S | 1040788     |
| IME12-08NNSZW2S | 1040790     |
| IME12-08NPOZC0S | 1040784     |
| IME12-08NPOZW2S | 1040786     |
| IME12-08NPSZC0S | 1040780     |
| IME12-08NPSZW2S | 1040782     |



- 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

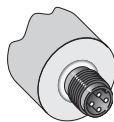


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal

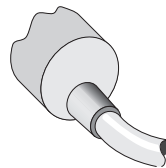
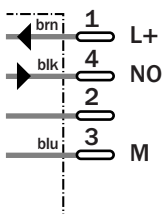


#### Connection type

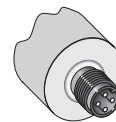
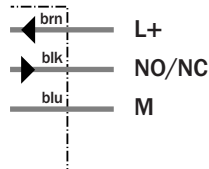
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME12-04BNSZCOK | IME12-04BNOZW2K | IME12-04BNOZCOK |
| IME12-04BPSZCOK | IME12-04BNSZW2K | IME12-04BPOZCOK |
|                 | IME12-04BPOZW2K |                 |
|                 | IME12-04BPSZW2K |                 |



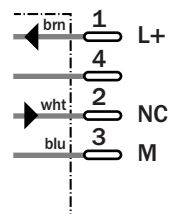
M12, 4-pin



3 x 0.25 mm<sup>2</sup>



M12, 4-pin



#### Accessories

Connector, M12, 4-pin  
Mounting systems

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

<sup>(1)</sup> At  $I_a$  max  
<sup>(2)</sup> Without load

<sup>(3)</sup> Of  $s_r$   
<sup>(4)</sup> According to EN 60529

<sup>(5)</sup> Thread diameter x pitch (mm)  
<sup>(6)</sup> (Pulsed)

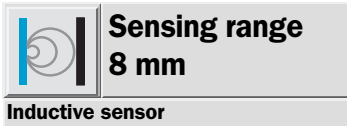
#### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

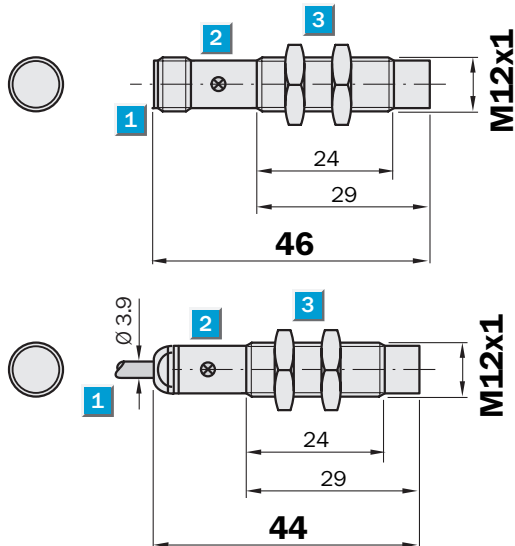
#### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME12-04BNOZCOK | 1040775     |
| IME12-04BNOZW2K | 1040777     |
| IME12-04BNSZCOK | 1040771     |
| IME12-04BNSZW2K | 1040773     |
| IME12-04BPOZCOK | 1040767     |
| IME12-04BPOZW2K | 1040769     |
| IME12-04BPSZCOK | 1040763     |
| IME12-04BPSZW2K | 1040765     |



- 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

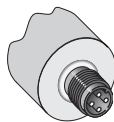


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal

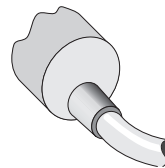
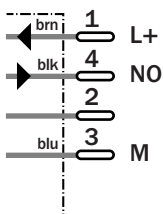


#### Connection type

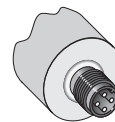
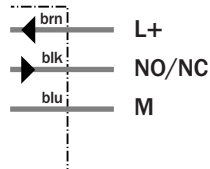
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME12-08NNSZCOK | IME12-08NNOZW2K | IME12-08NNOZCOK |
| IME12-08NPSZCOK | IME12-08NNSZW2K | IME12-08NPOZCOK |
|                 | IME12-08NPOZW2K |                 |
|                 | IME12-08NPSZW2K |                 |



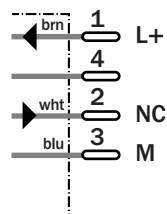
M12, 4-pin



3 x 0.25 mm<sup>2</sup>



M12, 4-pin



#### Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                        | IME12- | 08NNO<br>ZCOK | 08NNO<br>ZW2K | 08NNS<br>ZCOK | 08NNS<br>ZW2K | 08NPO<br>ZCOK | 08NPO<br>ZW2K | 08NPS<br>ZCOK | 08NPS<br>ZW2K |  |  |
|--------------------------------------------|--------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 8 mm                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                         |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{(1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{(2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                  |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                  |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                             |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>(3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                            |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                        |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                  |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                        |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>(4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 2000 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M12 x 1 <sup>(5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>(6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                      |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                         |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                     |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | Typ. 12 Nm                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                        |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                               |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                           |        |               |               |               |               |               |               |               |               |  |  |

<sup>(1)</sup> At  $I_a$  max  
<sup>(2)</sup> Without load

<sup>(3)</sup> Of  $s_{rr}$   
<sup>(4)</sup> According to EN 60529

<sup>(5)</sup> Thread diameter x pitch (mm)  
<sup>(6)</sup> (Pulsed)

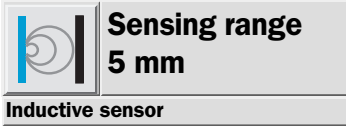
#### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

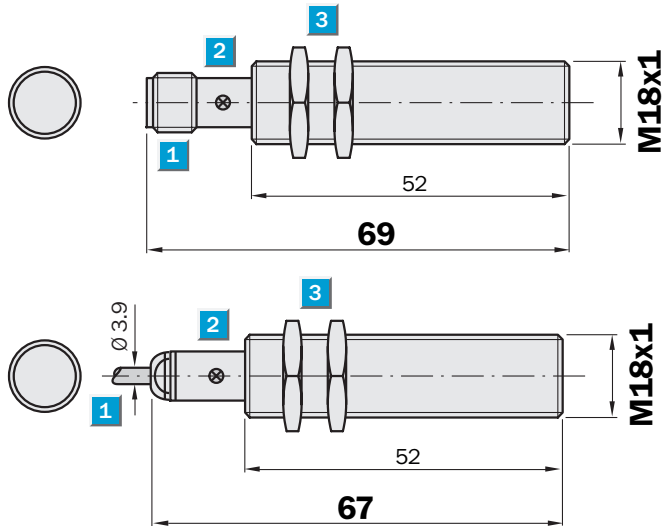
#### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME12-08NNOZCOK | 1040791     |
| IME12-08NNOZW2K | 1040792     |
| IME12-08NNSZCOK | 1040787     |
| IME12-08NNSZW2K | 1040789     |
| IME12-08NPOZCOK | 1040783     |
| IME12-08NPOZW2K | 1040785     |
| IME12-08NPSZCOK | 1040779     |
| IME12-08NPSZW2K | 1040781     |



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

Dimensional drawing

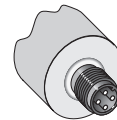
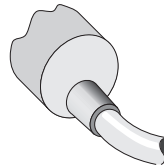
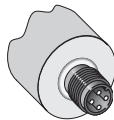


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



Connection type

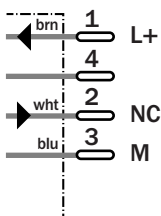
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME18-05BNOZC0S | IME18-05BNOZW2S | IME18-05BNSZC0S |
| IME18-05BPOZC0S | IME18-05BNSZW2S | IME18-05BPSZ0S  |
|                 | IME18-05BPOZW2S |                 |
|                 | IME18-05BPSZW2S |                 |



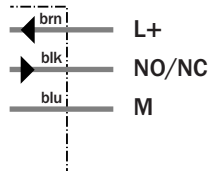
**Accessories**

Connector, M12, 4-pin  
Mounting systems

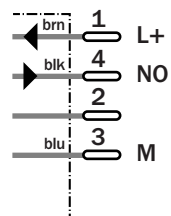
M12, 4-pin



3 x 0.25 mm²



M12, 4-pin



| Technical specifications                   |                                                       | IME18- | 05BNO<br>ZC0S | 05BNO<br>ZW2S | 05BNS<br>ZC0S | 05BNS<br>ZW2S | 05BPO<br>ZC0S | 05BPO<br>ZW2S | 05BPS<br>ZC0S | 05BPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 5 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 1000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M18 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 40 Nm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max

<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$

<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)

<sup>6)</sup> (Pulsed)

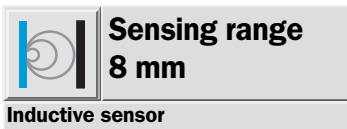
#### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

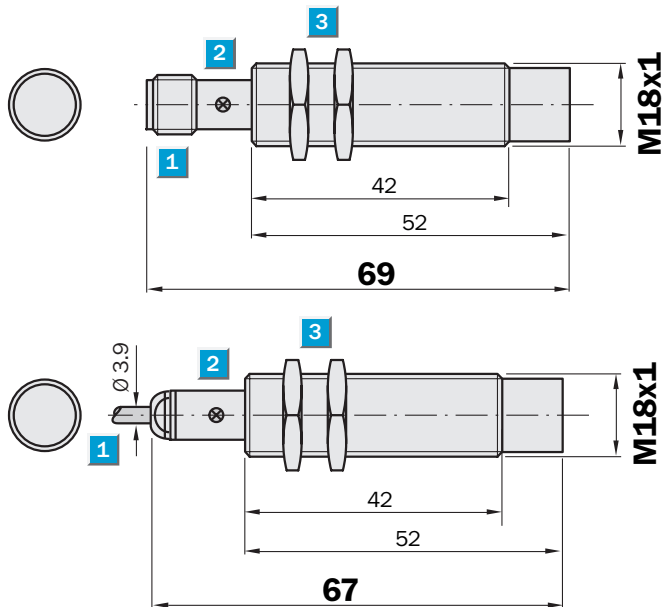
#### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME18-05BNOZC0S | 1040946     |
| IME18-05BNOZW2S | 1040948     |
| IME18-05BNSZC0S | 1040942     |
| IME18-05BNSZW2S | 1040944     |
| IME18-05BPOZC0S | 1040938     |
| IME18-05BPOZW2S | 1040940     |
| IME18-05BPSZC0S | 1040934     |
| IME18-05BPSZW2S | 1040936     |



- 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

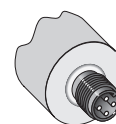
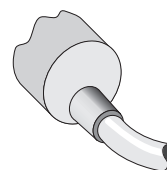
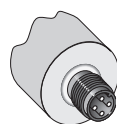


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



Connection type

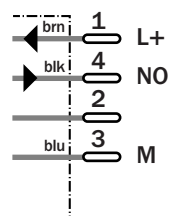
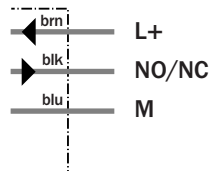
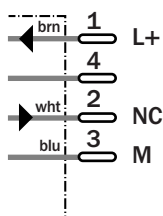
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME18-08NNOZC0S | IME18-08NNOZW2S | IME18-08NNSZC0S |
| IME18-08NPOZC0S | IME18-08NNSZW2S | IME18-08NPSZC0S |
|                 | IME18-08NPOZW2S |                 |
|                 | IME18-08NPSZW2S |                 |



M12, 4-pin

3 x 0.25 mm²

M12, 4-pin



## Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME18- | 08NNO<br>ZC0S | 08NNO<br>ZW2S | 08NNS<br>ZC0S | 08NNS<br>ZW2S | 08NPO<br>ZC0S | 08NPO<br>ZW2S | 08NPS<br>ZC0S | 08NPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 8 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 1000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M18 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 40 Nm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

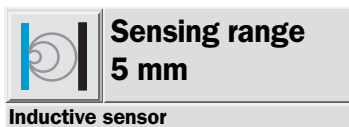
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

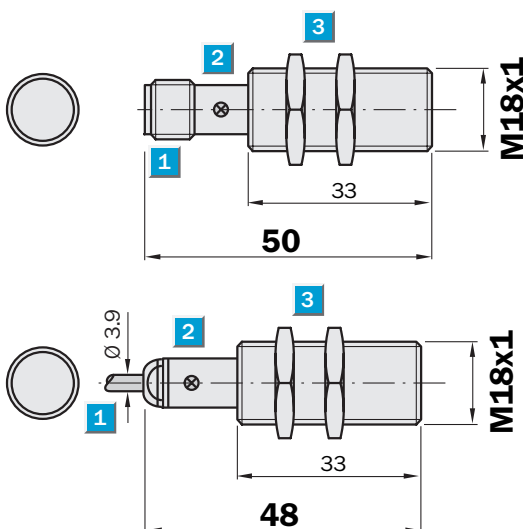
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME18-08NNOZC0S | 1040962     |
| IME18-08NNOZW2S | 1040964     |
| IME18-08NNSZC0S | 1040958     |
| IME18-08NNSZW2S | 1040960     |
| IME18-08NPOZC0S | 1040954     |
| IME18-08NPOZW2S | 1040956     |
| IME18-08NPSZC0S | 1040950     |
| IME18-08NPSZW2S | 1040952     |



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

## Dimensional drawing

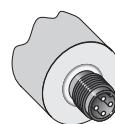
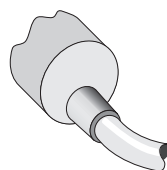
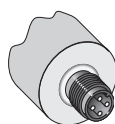


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



## Connection type

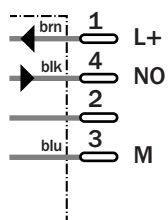
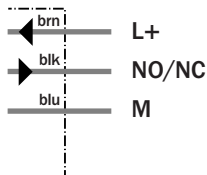
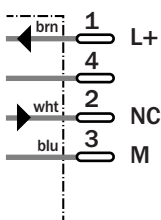
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME18-05BNOZCOK | IME18-05BNOZW2K | IME18-05BNSZCOK |
| IME18-05BPOZCOK | IME18-05BNSZW2K | IME18-05BPSZCOK |
|                 | IME18-05BPOZW2K |                 |
|                 | IME18-05BPSZW2K |                 |



M12, 4-pin

3 x 0.25 mm²

M12, 4-pin



## Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME18- | 05BNO<br>ZCOK | 05BNO<br>ZW2K | 05BNS<br>ZCOK | 05BNS<br>ZW2K | 05BPO<br>ZCOK | 05BPO<br>ZW2K | 05BPS<br>ZCOK | 05BPS<br>ZW2K |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 5 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 1000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M18 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 40 Nm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

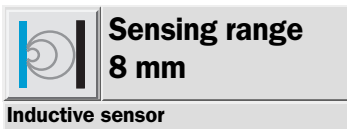
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

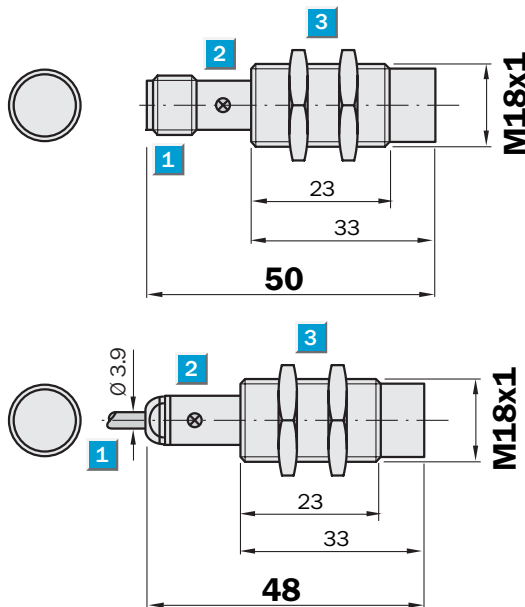
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME18-05BNOZCOK | 1040945     |
| IME18-05BNOZW2K | 1040947     |
| IME18-05BNSZCOK | 1040941     |
| IME18-05BNSZW2K | 1040943     |
| IME18-05BPOZCOK | 1040937     |
| IME18-05BPOZW2K | 1040939     |
| IME18-05BPSZCOK | 1040933     |
| IME18-05BPSZW2K | 1040935     |



- 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

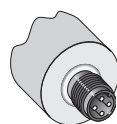


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal

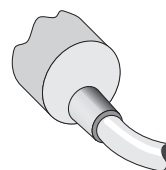
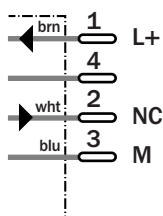


Connection type

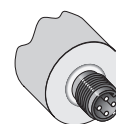
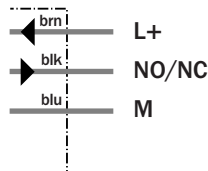
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME18-08NNOZCOK | IME18-08NNOZW2K | IME18-08NNSZCOK |
| IME18-08NPOZCOK | IME18-08NNSZW2K | IME18-08NPSZCOK |
|                 | IME18-08NPOZW2K |                 |
|                 | IME18-08NPSZW2K |                 |



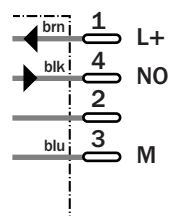
M12, 4-pin



3 x 0.25 mm²



M12, 4-pin



## Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME18- | 08NNO<br>ZCOK | 08NNO<br>ZW2K | 08NNS<br>ZCOK | 08NNS<br>ZW2K | 08NPO<br>ZCOK | 08NPO<br>ZW2K | 08NPS<br>ZCOK | 08NPS<br>ZW2K |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 8 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 V^{1)}$                                       |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 mA^{2)}$                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 mA$                                         |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 ms$                                         |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 1000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M18 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 40 Nm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

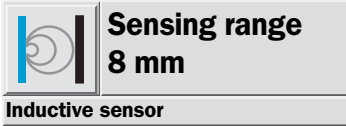
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

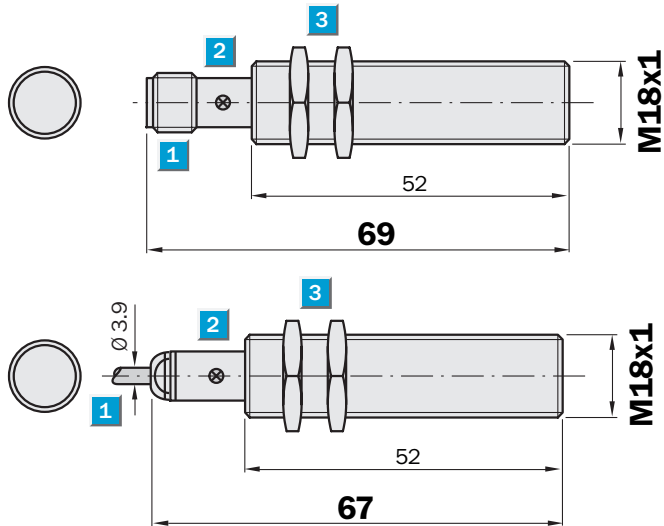
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME18-08NNOZCOK | 1040961     |
| IME18-08NNOZW2K | 1040963     |
| IME18-08NNSZCOK | 1040957     |
| IME18-08NNSZW2K | 1040959     |
| IME18-08NPOZCOK | 1040953     |
| IME18-08NPOZW2K | 1040955     |
| IME18-08NPSZCOK | 1040949     |
| IME18-08NPSZW2K | 1040951     |



- 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

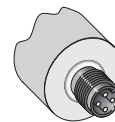
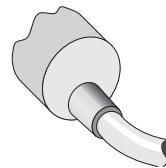
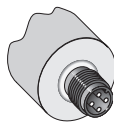


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



Connection type

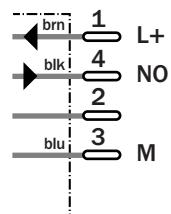
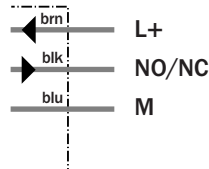
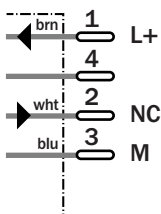
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME18-BN0ZC0S   | IME18-08BN0ZW2S | IME18-08BNSZC0S |
| IME18-08BPOZC0S | IME18-08BNSZW2S | IME18-08BPSZC0S |
|                 | IME18-08BPOZW2S |                 |
|                 | IME18-08BPSZW2S |                 |



M12, 4-pin

3 x 0.25 mm<sup>2</sup>

M12, 4-pin



#### Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME18- | 08BNO<br>ZC0S | 08BNO<br>ZW2S | 08BNS<br>ZC0S | 08BNS<br>ZW2S | 08BPO<br>ZC0S | 08BPO<br>ZW2S | 08BPS<br>ZC0S | 08BPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 8 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 1000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M18 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 40 Nm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

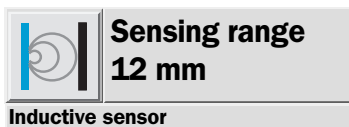
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

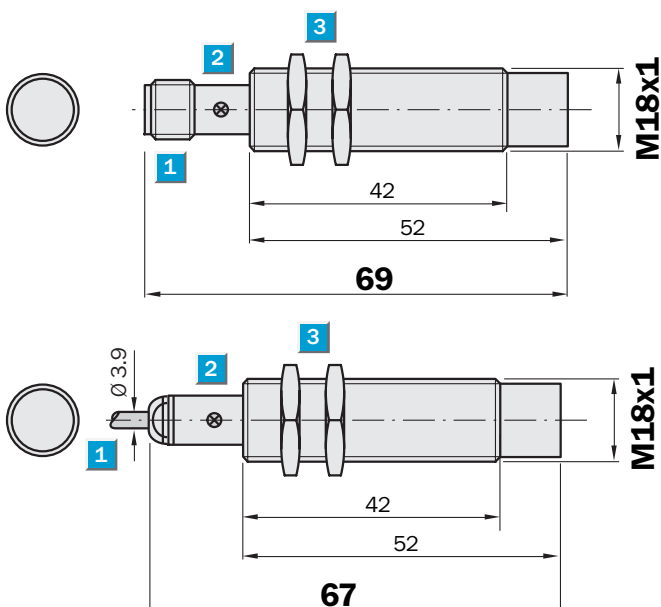
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME18-08BNOZC0S | 1040978     |
| IME18-08BNOZW2S | 1040980     |
| IME18-08BNSZC0S | 1040974     |
| IME18-08BNSZW2S | 1040976     |
| IME18-08BP0ZC0S | 1040970     |
| IME18-08BP0ZW2S | 1040972     |
| IME18-08BPSZC0S | 1040966     |
| IME18-08BPSZW2S | 1040968     |



- 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

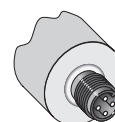
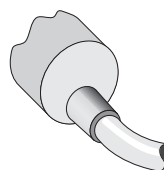
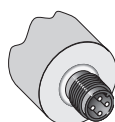


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



Connection type

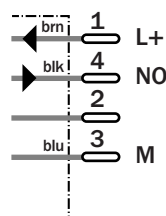
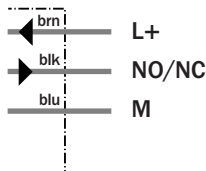
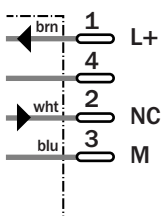
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME18-12NNOZC0S | IME18-12NNOZW2S | IME18-12NNSZC0S |
| IME18-12NPOZC0S | IME18-12NNSZW2S | IME18-12NPSZC0S |
|                 | IME18-12NPOZW2S |                 |
|                 | IME18-12NPSZW2S |                 |



M12, 4-pin

3 x 0.25 mm²

M12, 4-pin



## Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME18- | 12NNO<br>ZC0S | 12NNO<br>ZW2S | 12NNS<br>ZC0S | 12NNS<br>ZW2S | 12NPO<br>ZC0S | 12NPO<br>ZW2S | 12NPS<br>ZC0S | 12NPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 12 mm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 1000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M18 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 40 Nm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

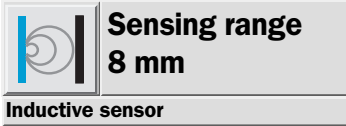
#### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

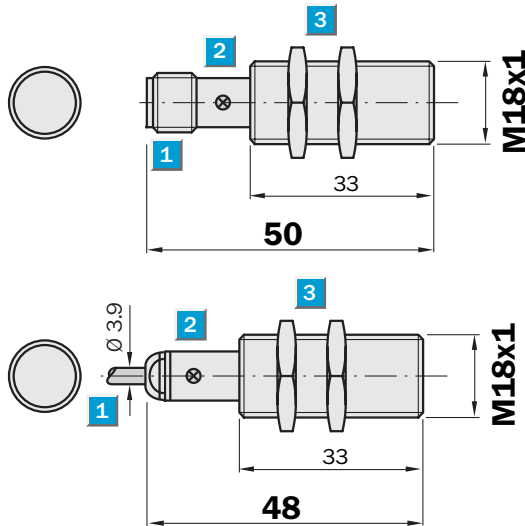
#### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME18-12NNOZC0S | 1040994     |
| IME18-12NNOZW2S | 1040996     |
| IME18-12NNSZC0S | 1040990     |
| IME18-12NNSZW2S | 1040992     |
| IME18-12NPOZC0S | 1040986     |
| IME18-12NPOZW2S | 1040988     |
| IME18-12NPSZC0S | 1040982     |
| IME18-12NPSZW2S | 1040984     |



- 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

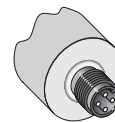
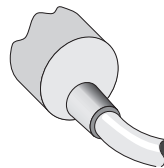
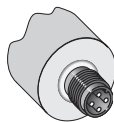


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



#### Connection type

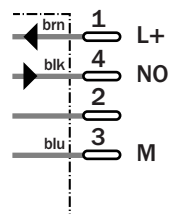
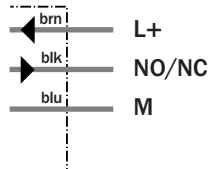
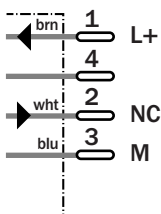
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME18-08BNOZCOK | IME18-08BNOZW2K | IME18-08BNSZCOK |
| IME18-08BPOZCOK | IME18-08BNSZW2K | IME18-08BPSZCOK |
|                 | IME18-08BPOZW2K |                 |
|                 | IME18-08BPSZW2K |                 |



M12, 4-pin

3 x 0.25 mm<sup>2</sup>

M12, 4-pin



#### Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME18- | 08BNO<br>ZCOK | 08BNO<br>ZW2K | 08BNS<br>ZCOK | 08BNS<br>ZW2K | 08BPO<br>ZCOK | 08BPO<br>ZW2K | 08BPS<br>ZCOK | 08BPS<br>ZW2K |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 8 mm                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 1000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M18 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 40 Nm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

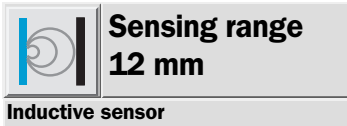
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

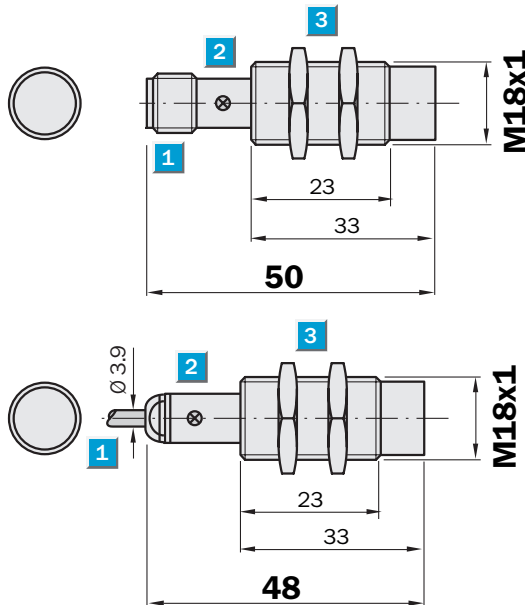
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME18-08BNOZCOK | 1040977     |
| IME18-08BNOZW2K | 1040979     |
| IME18-08BNSZCOK | 1040973     |
| IME18-08BNSZW2K | 1040975     |
| IME18-08BPOZCOK | 1040969     |
| IME18-08BPOZW2K | 1040971     |
| IME18-08BPSZCOK | 1040965     |
| IME18-08BPSZW2K | 1040967     |



- 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

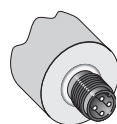


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal

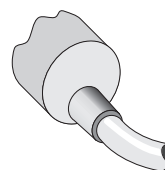
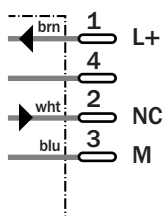


Connection type

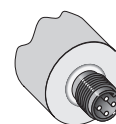
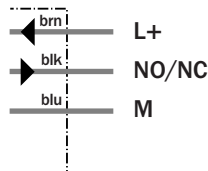
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME18-12NNOZCOK | IME18-12NNOZW2K | IME18-12NNSZCOK |
| IME18-12NPOZCOK | IME18-12NNSZW2K | IME18-12NPSZCOK |
|                 | IME18-12NPOZW2K |                 |
|                 | IME18-12NPSZW2K |                 |



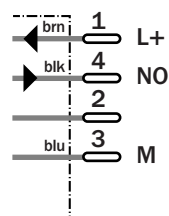
M12, 4-pin



3 x 0.25 mm<sup>2</sup>



M12, 4-pin



#### Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME18- | 12NNO<br>ZCOK | 12NNO<br>ZW2K | 12NNS<br>ZCOK | 12NNS<br>ZW2K | 12NPO<br>ZCOK | 12NPO<br>ZW2K | 12NPS<br>ZCOK | 12NPS<br>ZW2K |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 12 mm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 100 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 1000 Hz                                               |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M18 x 1 <sup>5)</sup>                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 40 Nm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

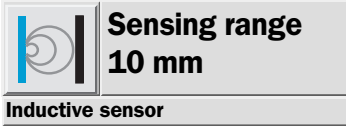
### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

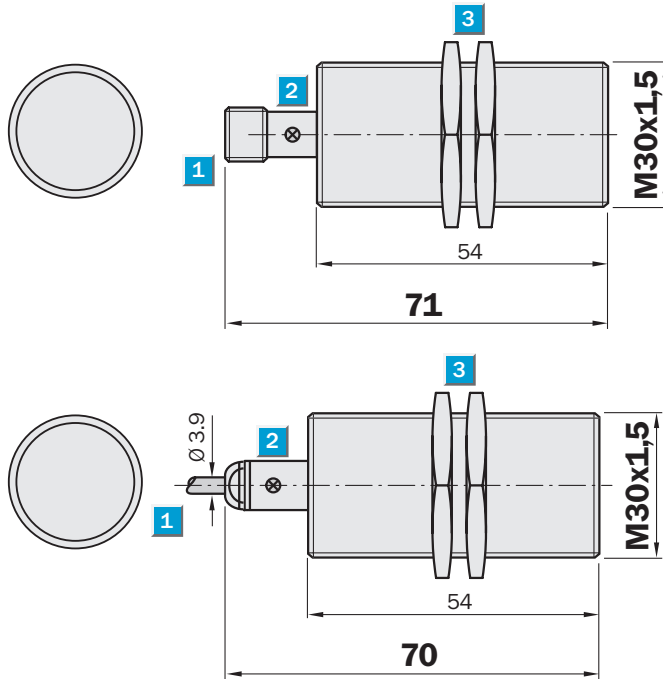
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME18-12NNOZCOK | 1040993     |
| IME18-12NNOZW2K | 1040995     |
| IME18-12NNSZCOK | 1040989     |
| IME18-12NNSZW2K | 1040991     |
| IME18-12NPOZCOK | 1040985     |
| IME18-12NPOZW2K | 1040987     |
| IME18-12NPSZCOK | 1040981     |
| IME18-12NPSZW2K | 1040983     |



- 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**

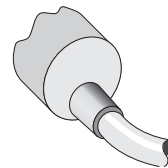
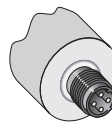
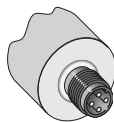


- 1** Connection
- 2** Display LED
- 3** Fastening nuts (2 x); width across 36, metal



**Connection type**

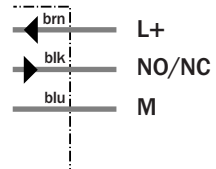
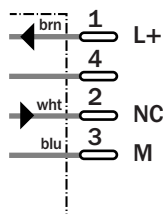
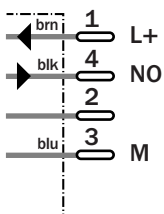
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME30-10BNSZC0S | IME30-10BNOZC0K | IME30-10BNOZW2S |
| IME30-10BPSZC0S | IME30-10BPOZC0S | IME30-10BNSZW2S |
|                 |                 | IME30-10BPOZW2S |
|                 |                 | IME30-10BPSZW2S |



**M12, 4-pin**

**M12, 4-pin**

**3 x 0.5 mm²**



## Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME30- | 10BNO<br>ZCOK | 10BNO<br>ZW2S | 10BNS<br>ZC0S | 10BNS<br>ZW2S | 10BPO<br>ZC0S | 10BPO<br>ZW2S | 10BPS<br>ZC0S | 10BPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 10 mm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 125 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 500 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M30 x 1.5 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 100 Nm                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

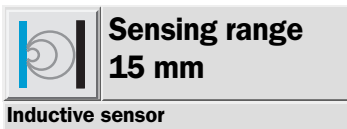
|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

### Installation note

Mounting based on non-ferromagnetic materials

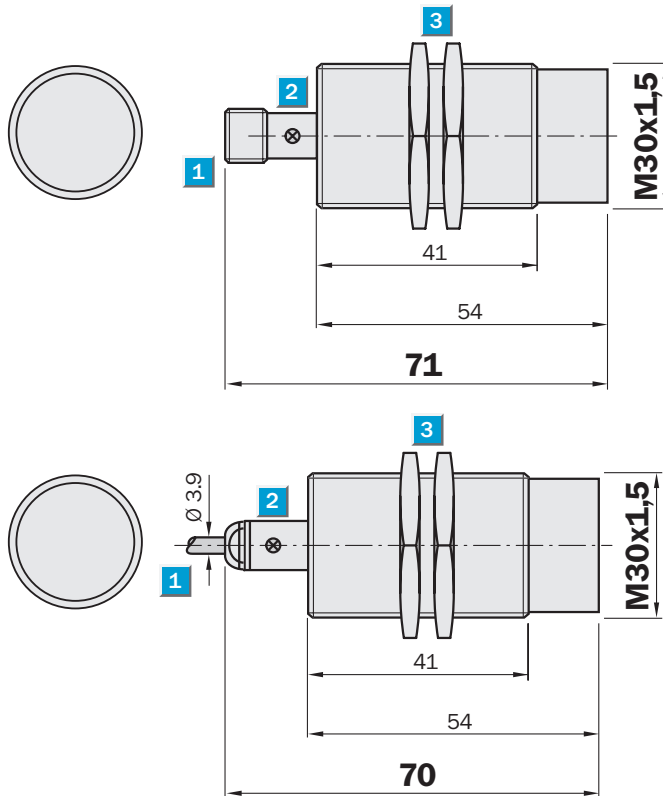
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME30-10BNOZCOK | 1041010     |
| IME30-10BNOZW2S | 1041012     |
| IME30-10BNSZC0S | 1041006     |
| IME30-10BNSZW2S | 1041008     |
| IME30-10BPOZC0S | 1041002     |
| IME30-10BPOZW2S | 1041004     |
| IME30-10BPSZC0S | 1040998     |
| IME30-10BPSZW2S | 1041000     |



- 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

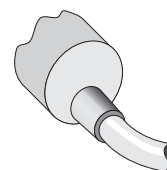
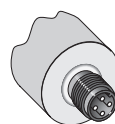
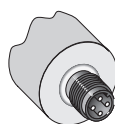


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 36, metal



Connection type

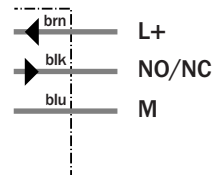
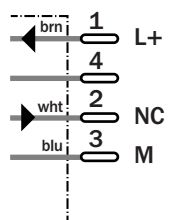
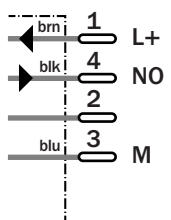
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME30-15NNSZC0S | IME30-15NNOZC0S | IME30-15NNOZW2S |
| IME30-15NPSZC0S | IME30-15NPOZC0S | IME30-15NNSZW2S |
|                 |                 | IME30-15NPOZW2S |
|                 |                 | IME30-15NPSZW2S |



M12, 4-pin

M12, 4-pin

3 x 0.5 mm²



| Accessories           |
|-----------------------|
| Connector, M12, 4-pin |
| Mounting systems      |

| Technical specifications                   |                                                       | IME30- | 15NNO<br>ZC0S | 15NNO<br>ZW2S | 15NNS<br>ZC0S | 15NNS<br>ZW2S | 15NPO<br>ZC0S | 15NPO<br>ZW2S | 15NPS<br>ZC0S | 15NPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 15 mm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 125 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 500 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M30 x 1.5 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 100 Nm                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

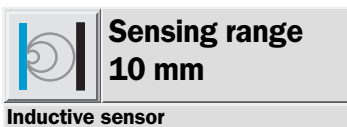
|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

### Installation note

Mounting based on non-ferromagnetic materials

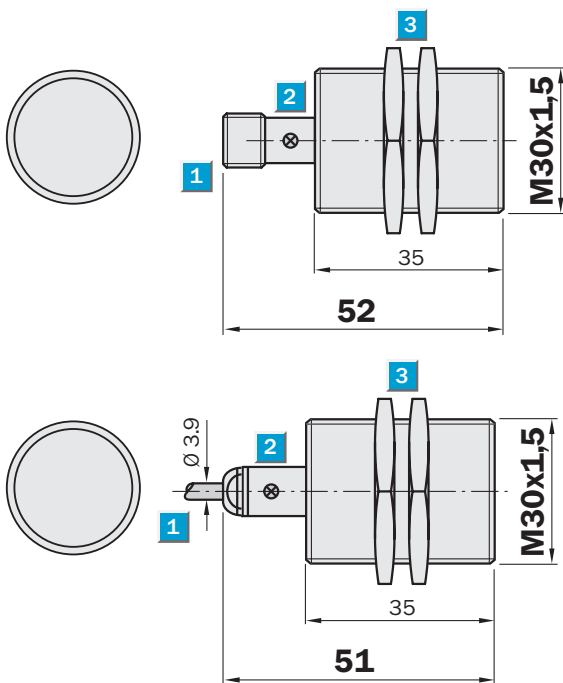
### Ordering information

| 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     |



- 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**

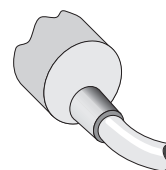
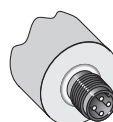
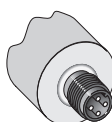


- 1** Connection
- 2** Display LED
- 3** Fastening nuts (2 x); width across 36, metal



**Connection type**

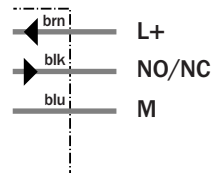
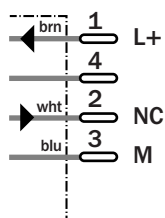
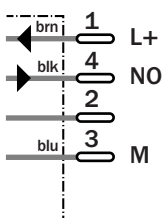
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME30-10BNSZCOK | IME30-10BNOZCOK | IME30-10BNOZW2K |
| IME30-10BPSZCOK | IME30-10BPOZCOK | IME30-10BNSZW2K |
|                 |                 | IME30-10BPOZW2K |
|                 |                 | IME30-10BPSZW2K |



**M12, 4-pin**

**M12, 4-pin**

**3 x 0.5 mm²**



**Accessories**

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME30- | 10BNO<br>ZC0S | 10BNO<br>ZW2K | 10BNS<br>ZC0K | 10BNS<br>ZW2K | 10BPO<br>ZC0K | 10BPO<br>ZW2K | 10BPS<br>ZC0K | 10BPS<br>ZW2K |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 10 mm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 125 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 500 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M30 x 1.5 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 100 Nm                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

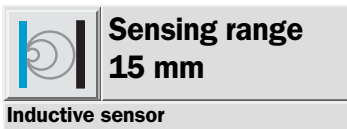
|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

### Installation note

Mounting based on non-ferromagnetic materials

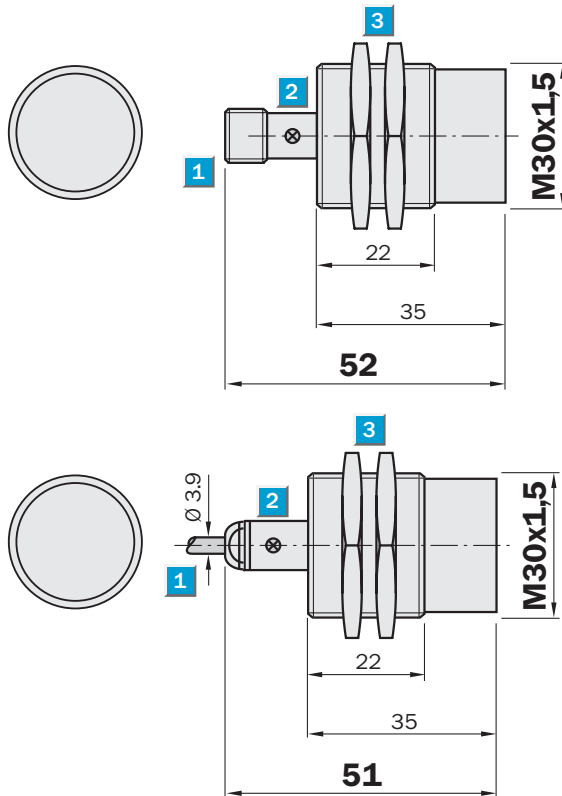
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME30-10BNOZC0S | 1041009     |
| IME30-10BNOZW2K | 1041011     |
| IME30-10BNSZC0K | 1041005     |
| IME30-10BNSZW2K | 1041007     |
| IME30-10BPOZC0K | 1041001     |
| IME30-10BPOZW2K | 1041003     |
| IME30-10BPSZC0K | 1040997     |
| IME30-10BPSZW2K | 1040999     |



- 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

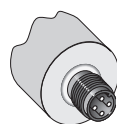


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 36, metal

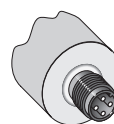
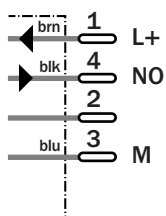


Connection type

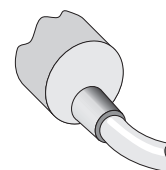
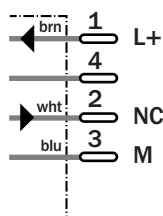
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME30-15NNSZCOK | IME30-15NNOZCOK | IME30-15NNOZW2K |
| IME30-15NPSZCOK | IME30-15NPOZCOK | IME30-15NNSZW2K |
|                 |                 | IME30-15NPOZW2K |
|                 |                 | IME30-15NPSZW2K |



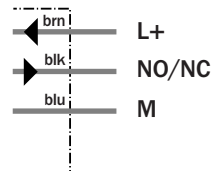
M12, 4-pin



M12, 4-pin



3 x 0.5 mm²



## Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME30- | 15NNO<br>ZCOK | 15NNO<br>ZW2K | 15NNS<br>ZCOK | 15NNS<br>ZW2K | 15NPO<br>ZCOK | 15NPO<br>ZW2K | 15NPS<br>ZCOK | 15NPS<br>ZW2K |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 15 mm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 125 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 500 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M30 x 1.5 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 100 Nm                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

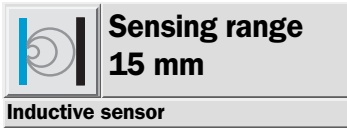
|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

### Installation note

Mounting based on non-ferromagnetic materials

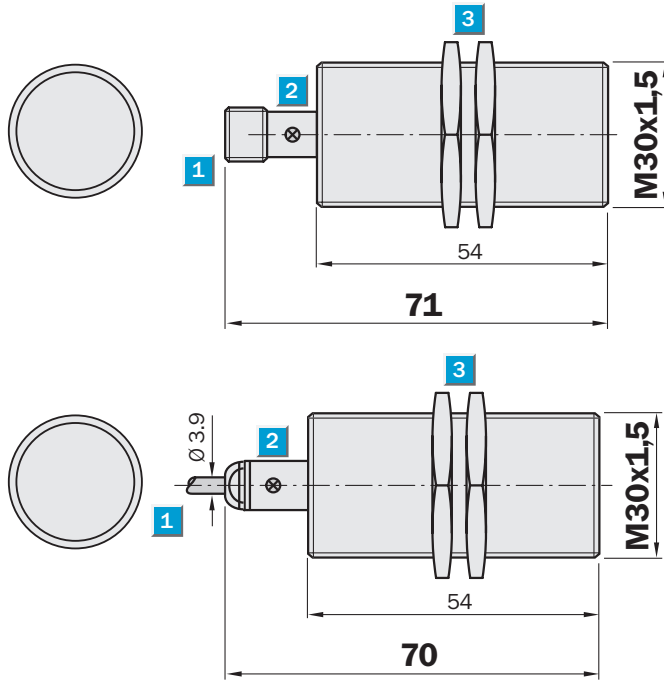
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME30-15NNOZCOK | 1041025     |
| IME30-15NNOZW2K | 1041027     |
| IME30-15NNSZCOK | 1041021     |
| IME30-15NNSZW2K | 1041023     |
| IME30-15NPOZCOK | 1041017     |
| IME30-15NPOZW2K | 1041019     |
| IME30-15NPSZCOK | 1041013     |
| IME30-15NPSZW2K | 1041015     |



- 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

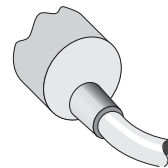
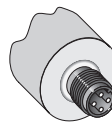
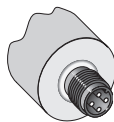


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 36, metal



Connection type

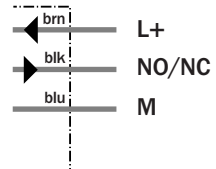
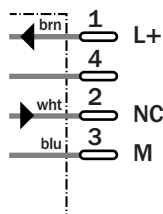
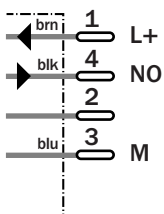
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME30-15BNSZC0S | IME30-15BNOZC0S | IME30-15BNOZW2S |
| IME30-15BPSZC0S | IME30-15BPOZC0S | IME30-15BNSZW2S |
|                 |                 | IME30-15BPOZW2S |
|                 |                 | IME30-15BPSZW2S |



M12, 4-pin

M12, 4-pin

3 x 0.5 mm<sup>2</sup>



#### Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME30- | 15BNO<br>ZC0S | 15BNO<br>ZW2S | 15BNS<br>ZC0S | 15BNS<br>ZW2S | 15BPO<br>ZC0S | 15BPO<br>ZW2S | 15BPS<br>ZC0S | 15BPS<br>ZW2S |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 15 mm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 125 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 3 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 500 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M30 x 1.5 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 100 Nm                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

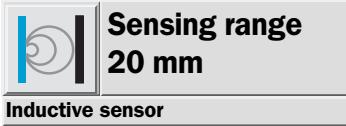
|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

### Installation note

Mounting based on non-ferromagnetic materials

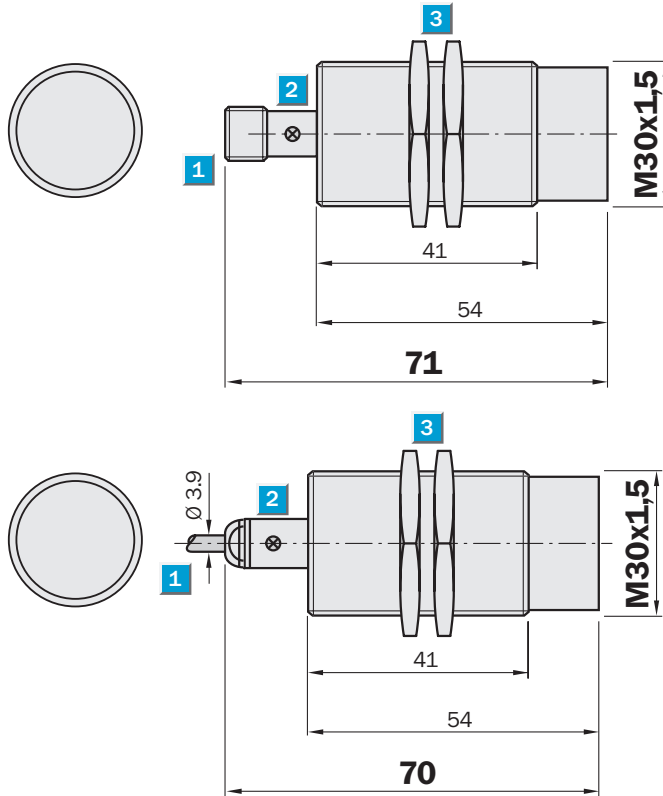
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME30-15BNOZC0S | 1041042     |
| IME30-15BNOZW2S | 1041044     |
| IME30-15BNSZC0S | 1041038     |
| IME30-15BNSZW2S | 1041040     |
| IME30-15BPOZC0S | 1041034     |
| IME30-15BPOZW2S | 1041036     |
| IME30-15BPSZC0S | 1041030     |
| IME30-15BPSZW2S | 1041032     |



- 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

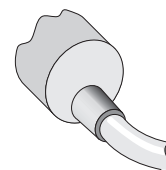
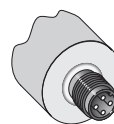
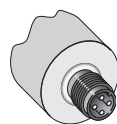


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 36, metal



Connection type

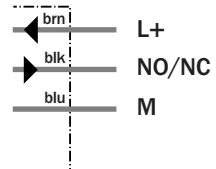
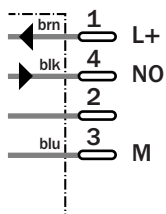
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME30-20NNSZC0S | IME30-20NNOZC0S | IME30-20NNOZW2S |
| IME30-20NPSZC0S | IME30-20NPOZC0S | IME30-20NNSZW2S |
|                 |                 | IME30-20NPOZW2S |
|                 |                 | IME30-20NPSZW2S |



M12, 4-pin

M12, 4-pin

3 x 0.5 mm²



Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                    | IME30- | 20NNO<br>ZC0S | 20NNO<br>ZW2S | 20NNS<br>ZC0S | 20NNS<br>ZW2S | 20NPO<br>ZC0S | 20NPO<br>ZW2S | 20NPS<br>ZC0S | 20NPS<br>ZW2S |  |  |
|--------------------------------------------|----------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 20 mm                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                           |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                     |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                 |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                       |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                            |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                              |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 125 \text{ ms}$                              |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                         |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | Typ. 2 % ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                        |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                    |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                      |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                          |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                              |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 500 Hz                                             |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M30 x 1.5 <sup>5)</sup>                            |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                    |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                  |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                     |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                  |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                 |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 100 Nm                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                           |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                       |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

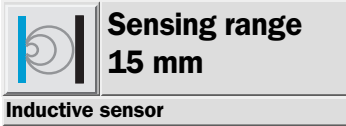
|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

### Installation note

Mounting based on non-ferromagnetic materials

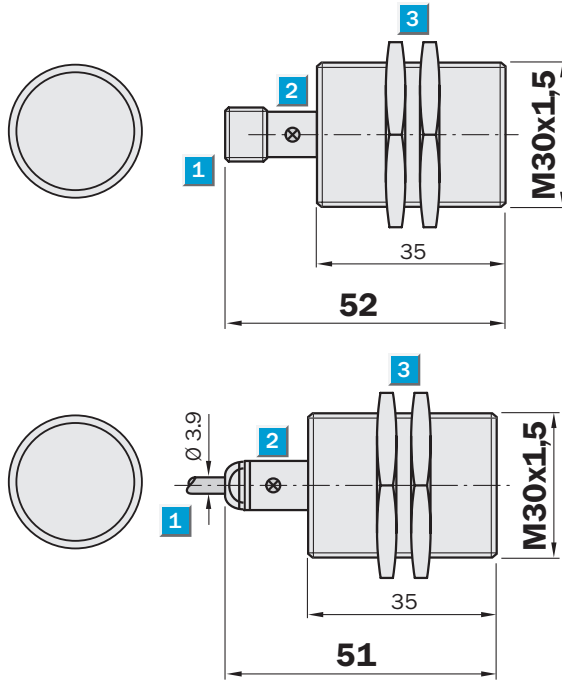
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME30-20NNOZC0S | 1041058     |
| IME30-20NNOZW2S | 1041060     |
| IME30-20NNSZC0S | 1041054     |
| IME30-20NNSZW2S | 1041056     |
| IME30-20NPOZC0S | 1041050     |
| IME30-20NPOZW2S | 1041052     |
| IME30-20NPSZC0S | 1041046     |
| IME30-20NPSZW2S | 1041048     |

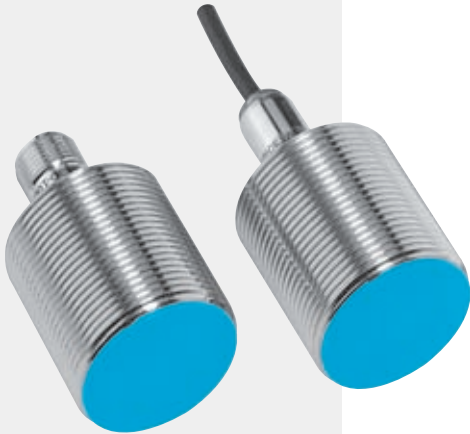


- Enhanced sensing range
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation flush

Dimensional drawing

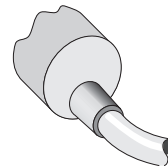
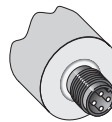
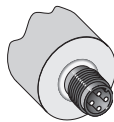


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 36, metal



Connection type

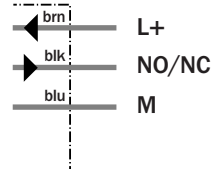
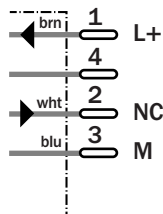
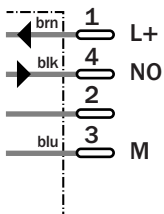
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME30-15BNSZCOK | IME30-15BNOZCOK | IME30-15BNOZW2K |
| IME30-15BPSZCOK | IME30-15BPOZCOK | IME30-15BNSZW2K |
|                 |                 | IME30-15BPOZW2K |
|                 |                 | IME30-15BPSZW2K |



M12, 4-pin

M12, 4-pin

3 x 0.15 mm<sup>2</sup>



#### Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME30- | 15BNO<br>ZCOK | 15BNO<br>ZW2K | 15BNS<br>ZCOK | 15BNS<br>ZW2K | 15BPO<br>ZCOK | 15BPO<br>ZW2K | 15BPS<br>ZCOK | 15BPS<br>ZW2K |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 15 mm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{1)}$                               |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{2)}$                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 125 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 3 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Flush                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 500 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M30 x 1.5 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 100 Nm                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

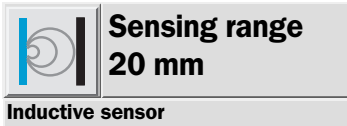
|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

### Installation note

Mounting based on non-ferromagnetic materials

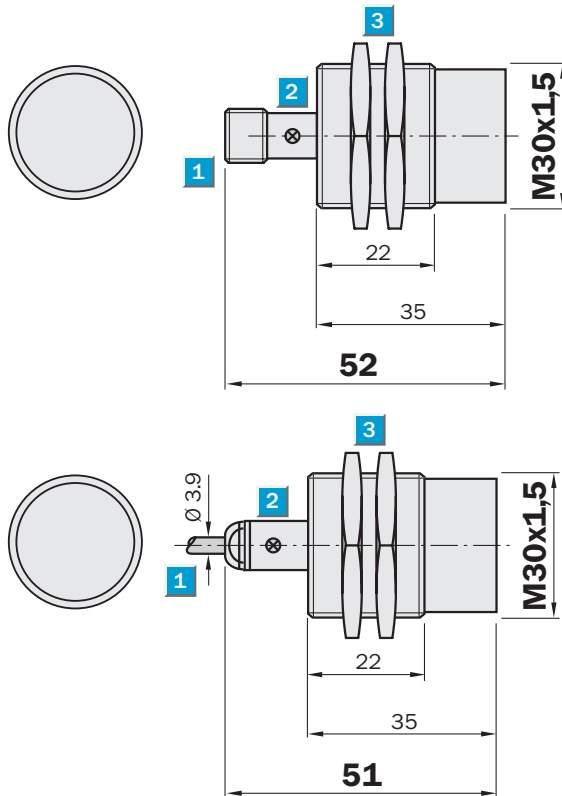
### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME30-15BNOZCOK | 1041041     |
| IME30-15BNOZW2K | 1041043     |
| IME30-15BNSZCOK | 1041037     |
| IME30-15BNSZW2K | 1041039     |
| IME30-15BPOZCOK | 1041033     |
| IME30-15BPOZW2K | 1041035     |
| IME30-15BPSZCOK | 1041029     |
| IME30-15BPSZW2K | 1041031     |



- 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

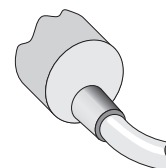
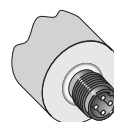
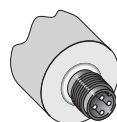


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 36, metal



Connection type

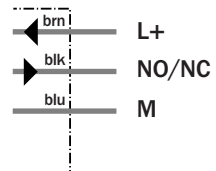
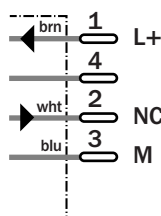
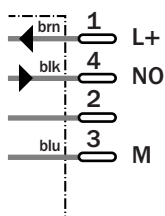
|                 |                 |                 |
|-----------------|-----------------|-----------------|
| IME30-20NNSZCOK | IME30-20NNOZCOK | IME30-20NNOZW2K |
| IME30-20NPSZCOK | IME30-20NPOZCOK | IME30-20NNSZW2K |
|                 |                 | IME30-20NPOZW2K |
|                 |                 | IME30-20NPSZW2K |



M12, 4-pin

M12, 4-pin

3 x 0.5 mm²



#### Accessories

Connector, M12, 4-pin  
Mounting systems

| Technical specifications                   |                                                       | IME30- | 20NNO<br>ZCOK | 20NNO<br>ZW2K | 20NNS<br>ZCOK | 20NNS<br>ZW2K | 20NPO<br>ZCOK | 20NPO<br>ZW2K | 20NPS<br>ZCOK | 20NPS<br>ZW2K |  |  |
|--------------------------------------------|-------------------------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| <b>Sensing range <math>S_n</math></b>      | 20 mm                                                 |        |               |               |               |               |               |               |               |               |  |  |
| <b>Electrical configuration</b>            | DC3-wire                                              |        |               |               |               |               |               |               |               |               |  |  |
| <b>Supply voltage <math>V_s</math></b>     | DC 10 ... 30 V                                        |        |               |               |               |               |               |               |               |               |  |  |
| Nominal voltage $V_n$                      | DC                                                    |        |               |               |               |               |               |               |               |               |  |  |
| Ripple $U_{pp}$                            | $\leq 10 \%$                                          |        |               |               |               |               |               |               |               |               |  |  |
| Voltage drop $U_d$                         | $\leq 2 \text{ V}^{(1)}$                              |        |               |               |               |               |               |               |               |               |  |  |
| Power consumption                          | $\leq 10 \text{ mA}^{(2)}$                            |        |               |               |               |               |               |               |               |               |  |  |
| <b>Continuous current <math>I_a</math></b> | $\leq 200 \text{ mA}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Time delay before availability $t_v$       | $\leq 125 \text{ ms}$                                 |        |               |               |               |               |               |               |               |               |  |  |
| Hysteresis H, of $s_r$                     | 5 ... 15 %                                            |        |               |               |               |               |               |               |               |               |  |  |
| Repeatability R                            | $\leq 2 \%$ ( $U_b$ and $T_a$ constant) <sup>3)</sup> |        |               |               |               |               |               |               |               |               |  |  |
| Temperature drift, of $s_r$                | $\pm 10 \%$                                           |        |               |               |               |               |               |               |               |               |  |  |
| EMC                                        | According to EN 60947-5-2                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Switching output</b>                    | NPN                                                   |        |               |               |               |               |               |               |               |               |  |  |
|                                            | PNP                                                   |        |               |               |               |               |               |               |               |               |  |  |
| <b>Output function</b>                     | Normally closed                                       |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Normally open                                         |        |               |               |               |               |               |               |               |               |  |  |
| <b>Installation</b>                        | Non-flush                                             |        |               |               |               |               |               |               |               |               |  |  |
| <b>Connection type</b>                     | Connector, M12, 4-pin                                 |        |               |               |               |               |               |               |               |               |  |  |
|                                            | Cable, PVC, 2 m                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Enclosure rating</b>                    | IP 67 <sup>4)</sup>                                   |        |               |               |               |               |               |               |               |               |  |  |
| Max. switching frequency                   | 500 Hz                                                |        |               |               |               |               |               |               |               |               |  |  |
| Dimensions                                 | M30 x 1.5 <sup>5)</sup>                               |        |               |               |               |               |               |               |               |               |  |  |
| <b>Short-circuit protection</b>            | ✓ <sup>6)</sup>                                       |        |               |               |               |               |               |               |               |               |  |  |
| <b>Reverse polarity protection</b>         | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Power-up pulse suppression</b>          | ✓                                                     |        |               |               |               |               |               |               |               |               |  |  |
| Shock/vibration stress                     | 30 g, 11 ms/10 ... 55 Hz, 1 mm                        |        |               |               |               |               |               |               |               |               |  |  |
| Ambient temperature $T_a$                  | -25 °C ... +75 °C                                     |        |               |               |               |               |               |               |               |               |  |  |
| <b>Housing material</b>                    | Brass nickel-plated, plastic (PA6)                    |        |               |               |               |               |               |               |               |               |  |  |
| Tightening torque                          | 100 Nm                                                |        |               |               |               |               |               |               |               |               |  |  |
| <b>Approvals</b>                           |                                                       |        |               |               |               |               |               |               |               |               |  |  |
| Protection class                           | <input type="checkbox"/>                              |        |               |               |               |               |               |               |               |               |  |  |
| UL approval                                | cULus Listed                                          |        |               |               |               |               |               |               |               |               |  |  |

<sup>1)</sup> At  $I_a$  max  
<sup>2)</sup> Without load

<sup>3)</sup> Of  $s_r$   
<sup>4)</sup> According to EN 60529

<sup>5)</sup> Thread diameter x pitch (mm)  
<sup>6)</sup> (Pulsed)

### Reduction factor $R_M$

The following are reference values, which may vary from type to type:

|                       |              |
|-----------------------|--------------|
| St37 (Fe)             | 1            |
| Stainless steel (V2A) | Approx. 0.8  |
| Aluminum (solid)      | Approx. 0.45 |
| Copper (Cu)           | Approx. 0.4  |

### Installation note

Mounting based on non-ferromagnetic materials

### Ordering information

| Type            | Part Number |
|-----------------|-------------|
| IME30-20NNOZCOK | 1041057     |
| IME30-20NNOZW2K | 1041059     |
| IME30-20NNSZCOK | 1041053     |
| IME30-20NNSZW2K | 1041055     |
| IME30-20NPOZCOK | 1041049     |
| IME30-20NPOZW2K | 1041051     |
| IME30-20NPSZCOK | 1041045     |
| IME30-20NPSZW2K | 1041047     |

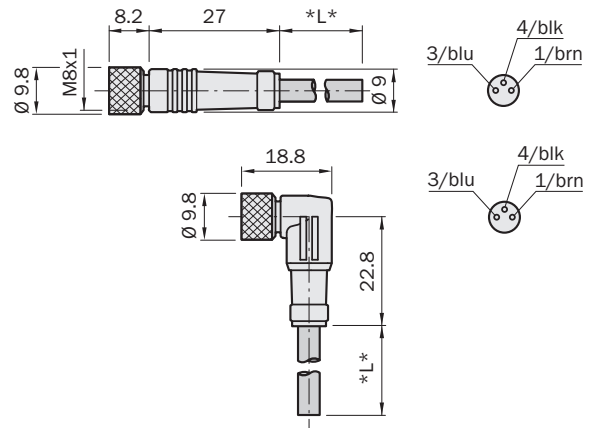
## Connecting cables PVC

### Round connectors

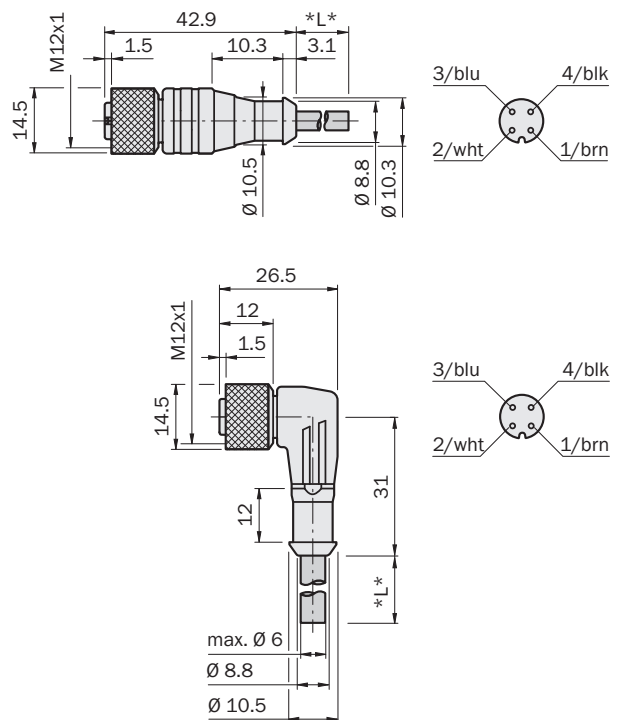
- Gold plated pins
- Self locking threaded
- Conditional resistance to chemicals and oils
- Especially suitable for use in assembly, packaging and production lines
- Enclosure rating IP 68 (M12)/IP 67 (M8) (only in fully locked position with its plugs)

## Dimensional drawings

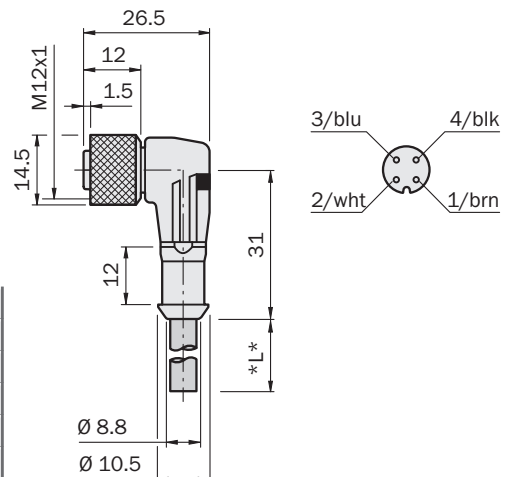
### DOL-08...



### 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  
 $R_{min} = 20 \times \text{cable diameter}$



(for M8-connector in preparation)

| Technical data                       |                                                                                                                                                             |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Nominal voltage V<sub>n</sub></b> | 60 V AC/75 V DC (M8-connector)<br>250 V AC/300 V DC (M12, 4-pin-connector)<br>30 V AC/36 V DC (M12, 5-pin-connector)<br>10 ... 30 V DC (M12, LED-indicator) |
| <b>Contact resistance</b>            | ≤ 5 mΩ                                                                                                                                                      |
| <b>Nominal power</b>                 | 4 A (CSA = 3 A)                                                                                                                                             |
| <b>Testvoltage</b>                   | 2.0 kV eff./60 s. (M12, 4-pin-connector)<br>1.5 kV eff./60 s. (M8-connector and M12, 5-pin)                                                                 |
| <b>Insulation group</b>              | C acc. VDE 0110                                                                                                                                             |
| <b>Insulation resistance</b>         | > 10 <sup>9</sup> Ω                                                                                                                                         |
| <b>Temperature range</b>             | In fixed position            -40 °C ... +80 °C<br>In flexible motion            +5 °C ... +80 °C                                                            |
| <b>Bending radius</b>                | > 10 x diameter of cable (in flexible motion)<br>5 x diameter of cable (in fixed position)                                                                  |
| <b>Contact</b>                       | CuZn, 0.3 µm gold plated                                                                                                                                    |
| <b>Locking nut</b>                   | CuZn, brass nickeled                                                                                                                                        |
| <b>Cable</b>                         | PVC, colour orange                                                                                                                                          |
| <b>Conductor diameter</b>            | 3 x 0.34 mm <sup>2</sup><br>4 x 0.25 mm <sup>2</sup><br>5 x 0.5 mm <sup>2</sup>                                                                             |
| <b>Connector</b>                     | 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                |

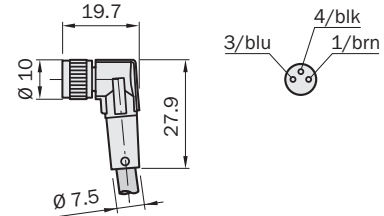
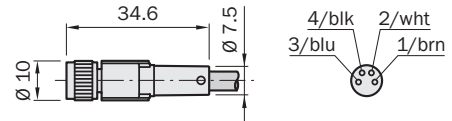
## Connecting cables PUR halogenfree

### Round connectors

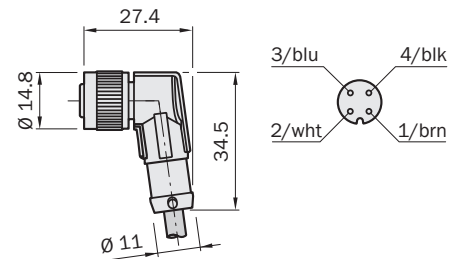
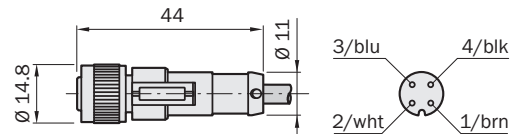
- Gold plated pins
- Halogenfree, PVC-free, silicone-free-cable
- Flame-retardant IEC 332-2
- Resisting to coolants and lubricants
- Suitable for use with drag chains
- Resistant against hydrolysis
- Enclosure rating IP 67 (M8)/IP 68 (M12) (only in fully locked position with its plugs)

### 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  
 $R_{min} = 20 \times \text{cable diameter}$

## Technical data

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

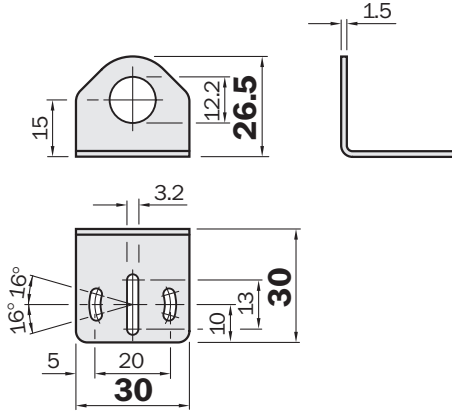
## Round connectors M12 connecting cable PUR halogenfree

| Type           | Order no. | 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

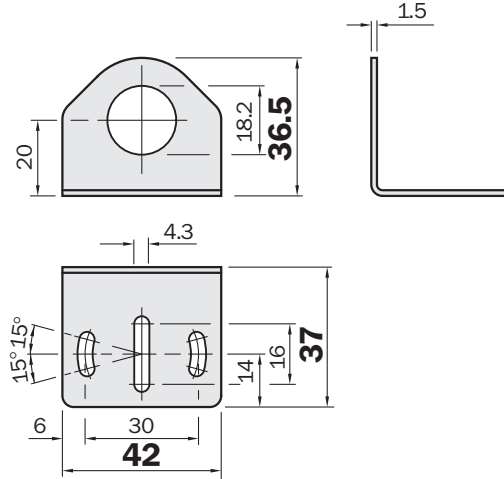
### Mounting bracket for IME12

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



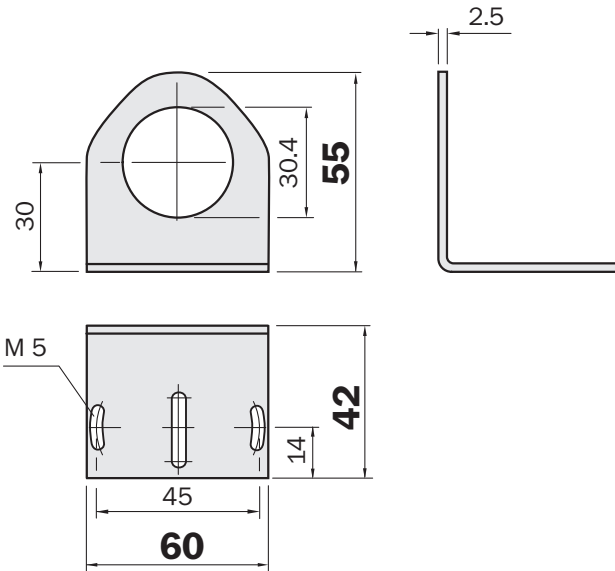
### Mounting bracket for IME18

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



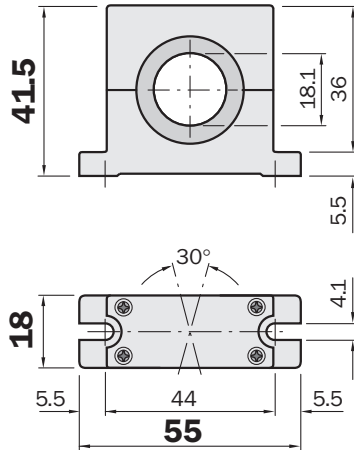
### Mounting bracket for IME30

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



### Mounting bracket for IME18

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





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