PRODUCT INFORMATION

# IM Standard

## INDUCTIVE SENSORS AS DC 2-WIRE VERSION

Inductive proximity sensors

SICK
Sensor Intelligence.

# INDUCTIVE SENSORS AS DC 2-WIRE VERSION

## Product description

SICK's IM Standard cylindrical inductive proximity sensors offer precise detection, less downtime and a long service life. The standard cylindrical inductive sensor family includes IME inductive sensors, which feature advanced ASIC technology. This enables digital adjustment after the end of the manufacturing process. Proprietary ASIC technology eliminates production tolerances, enabling the IME to provide highly accurate and repeatable detection for any number of production runs. IME sensors are completely encapsulated with hot melt technology, which increases these sensors' life under shock and vibration. The customer benefits from high position accuracy in the machine and long term reliability.

## At a glance

- Precise operating distances due to ASIC technology
- Extra tough thanks to high fastener torque and hot melt adhesive filling
- M8 to M30 sizes available
- Operating distance from 1.5 mm to 20 mm
- IP 67 enclosure rating
- Operating temperature from –25° C to +75° C
- DC 2-wire versions
- Customer-specific models available

## Your benefits

- Reduced machine downtime
- Reduced mechanical damage
- Fewer maintenance costs due to longer service life
- High resistance to shock and vibrations

## Additional information

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→ www.mysick.com/en/IM_Standard

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



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## Detailed technical data

### Features

| | IME08 | IME12 | IME18 | IME30 |
|---|---|---|---|---|
| **Housing** | Cylindrical | | | |
| **Thread size** | M8 x 1 | M12 x 1 | M18 x 1 | M30 x 1.5 |
| **Sensing range $S_n$** | | | | |
| Standard, flush | 2 mm | 4 mm | 8 mm | 15 mm |
| Standard, non-flush | 4 mm | 8 mm | 12 mm | 20 mm |
| **Assured sensing range $S_a$** | | | | |
| Standard, flush | 1.62 mm | 3.24 mm | 6.48 mm | 12.15 mm |
| Standard, non-flush | 3.24 mm | 6.48 mm | 9.72 mm | 16.2 mm |
| **Installation type** | Flush / non-flush (depending on type) | | | |
| **Output function** | NC / NO | | | |
| **Switching frequency** | ± 4,000 Hz | ± 2,000 Hz | ± 1,000 Hz | ± 500 Hz |
| **Electrical wiring** | DC 2-wire | | | |
| **Enclosure rating** [1] | IP 67 | | | |

[1] According to EN 60529.

### Mechanics/electronics

| | IME08 | IME12 | IME18 | IME30 |
|---|---|---|---|---|
| **Supply voltage** | 10 V DC ... 30 V DC | | | |
| **Ripple** | ≤ 10 % | | | |
| **Voltage drop** | ≤ 4 V [1]<br>≤ 4.5 V [2] | | | |
| **Time delay before availability** | ≤ 100 ms | | | |
| **Hysteresis** | 5 % ... 15 % | | | 3 % ... 15 % (depending on type) |
| **Repeatability** [3] [4] | ≤ 2 % | | | |
| **Temperature drift (of $S_r$)** | ± 10 % | | | |
| **EMC** | According to EN 60947-5-2 | | | |
| **Output current $I_a$** | ≤ 100 mA | | | |
| **Off-state current** | ≤ 0.8 mA | | | |
| **Load resistance, min.** | ≥ 3 mA | | | |
| **Connection type** | Cable, 2 m, oil-resistant PVC<br>Male connector, M8 (depending on type) | Cable, 2 m, oil-resistant PVC<br>Male connector, M12 (depending on type) | | |
| **Short-circuit protection** | ✔ | | | |
| **Reverse polarity protection** | ✔ | | | |
| **Power-up pulse** | ≤ 5 ms | | | |
| **Shock/vibration** | 30 g, 11 ms/10 Hz ... 55 Hz, 1 mm | | | |
| **Ambient operating temperature** | –25 °C ... +75 °C | | | |
| **Housing material** | Metal, Nickel-plated brass | | | |
| **Housing cap material** | Plastic, PA6 | | | |
| **Tightening torque, max.** | Typ. 5 Nm | Typ. 12 Nm | ≤ 40 Nm | ≤ 100 Nm |

[1] At $I_a$ = 30 mA.
[2] At $I_a$ max.
[3] Ub and Ta constant.
[4] Of Sr.

## Reduction factors

| | |
|---|---|
| **Note** | The values are reference values which may vary |
| **Carbon steel St37 (Fe)** | 1 |
| **Stainless steel (V2A, 304)** | Approx. 0.8 |
| **Aluminum (Al)** | Approx. 0.45 |
| **Copper (Cu)** | Approx. 0.4 |
| **Brass (Br)** | Approx. 0.4 |

## Ordering information

### IME08

| Housing | Sensing range $S_n$ | Installation type | Output function | Connection | Connection diagram | Model name | Part no. |
|---|---|---|---|---|---|---|---|
| M8 x 1 | 2 mm | Flush | NC | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME08-02BDOZY2S | 1068250 |
| | | | | Connector M8, 3-pin | Cd-246 | IME08-02BDOZT0S | 1067108 |
| | | | NO | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME08-02BDSZY2S | 1068251 |
| | | | | Connector M8, 3-pin | Cd-241 | IME08-02BDSZT0S | 1067109 |
| | 4 mm | Non-flush | NC | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME08-04NDOZY2S | 1068252 |
| | | | | Connector M8, 3-pin | Cd-246 | IME08-04NDOZT0S | 1067197 |
| | | | NO | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME08-04NDSZY2S | 1068253 |
| | | | | Connector M8, 3-pin | Cd-241 | IME08-04NDSZT0S | 1067177 |

### IME12

| Housing | Sensing range $S_n$ | Installation type | Output function | Connection | Connection diagram | Model name | Part no. |
|---|---|---|---|---|---|---|---|
| M12 x 1 | 4 mm | Flush | NC | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME12-04BDOZY2S | 1068254 |
| | | | | Connector M12, 4-pin | Cd-245 | IME12-04BDOZC0S | 1067200 |
| | | | NO | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME12-04BDSZY2S | 1068255 |
| | | | | Connector M12, 4-pin | Cd-015 | IME12-04BDSZC0S | 1067178 |
| | 8 mm | Non-flush | NC | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME12-08NDOZY2S | 1068256 |
| | | | | Connector M12, 4-pin | Cd-245 | IME12-08NDOZC0S | 1067203 |
| | | | NO | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME12-08NDSZY2S | 1068257 |
| | | | | Connector M12, 4-pin | Cd-015 | IME12-08NDSZC0S | 1067180 |



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## IME18

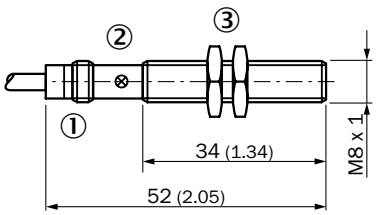
| Housing | Sensing range $S_n$ | Installation type | Output function | Connection | Connection diagram | Model name | Part no. |
|---|---|---|---|---|---|---|---|
| M18 x 1 | 8 mm | Flush | NC | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME18-08BD0ZY2S | 1068258 |
| | | | | Connector M12, 4-pin | Cd-245 | IME18-08BD0ZC0S | 1067206 |
| | | | NO | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME18-08BDSZY2S | 1068259 |
| | | | | Connector M12, 4-pin | Cd-015 | IME18-08BDSZC0S | 1067207 |
| | 12 mm | Non-flush | NC | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME18-12ND0ZY2S | 1068260 |
| | | | | Connector M12, 4-pin | Cd-245 | IME18-12ND0ZC0S | 1067222 |
| | | | NO | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME18-12NDSZY2S | 1068261 |
| | | | | Connector M12, 4-pin | Cd-015 | IME18-12NDSZC0S | 1067181 |

## IME30

| Housing | Sensing range $S_n$ | Installation type | Output function | Connection | Connection diagram | Model name | Part no. |
|---|---|---|---|---|---|---|---|
| M30 x 1.5 | 15 mm | Flush | NC | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME30-15BD0ZY2S | 1068263 |
| | | | | Connector M12, 4-pin | Cd-245 | IME30-15BD0ZC0S | 1067226 |
| | | | NO | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME30-15BDSZY2S | 1068264 |
| | | | | Connector M12, 4-pin | Cd-015 | IME30-15BDSZC0S | 1067183 |
| | 20 mm | Non-flush | NC | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME30-20ND0ZY2S | 1068266 |
| | | | | Connector M12, 4-pin | Cd-245 | IME30-20ND0ZC0S | 1067235 |
| | | | NO | Cable, 2-wire, 2 m, Oil-resistant PVC | Cd-012 | IME30-20NDSZY2S | 1068267 |
| | | | | Connector M12, 4-pin | Cd-015 | IME30-20NDSZC0S | 1067184 |

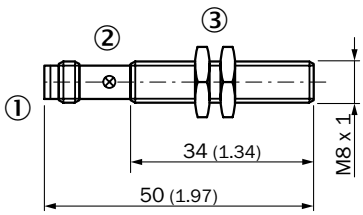
## Dimensional drawings (Dimensions in mm (inch))

IME08 Standard, cable, flush



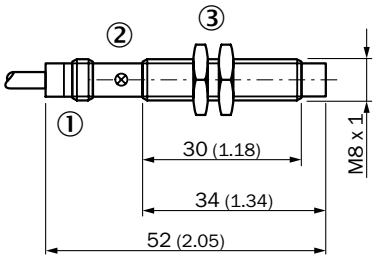

① Connection
② LED indicator
③ Fastening nuts (2 x); width across 13, metal

IME08 Standard, connector, flush



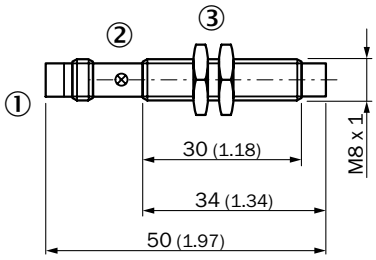

① Connection
② LED indicator
③ Fastening nuts (2 x); width across 13, metal

### IME08 Standard, cable, non-flush



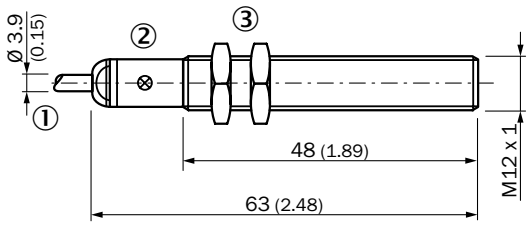

① Connection
② LED indicator
③ Fastening nuts (2 x); width across 13, metal

### IME08 Standard, connector, non-flush



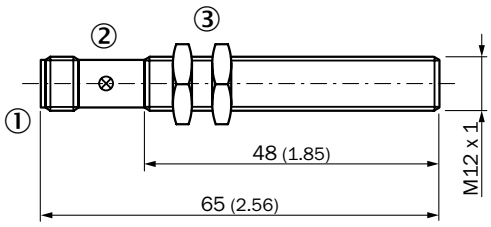

① Connection
② LED indicator
③ Fastening nuts (2 x); width across 13, metal

### IME12 Standard, cable, flush



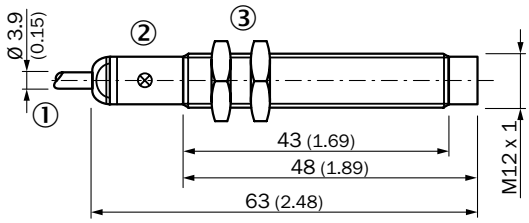

① Connection
② LED indicator
③ Fastening nuts (2 x); width across 17, metal

### IME12 Standard, connector, flush



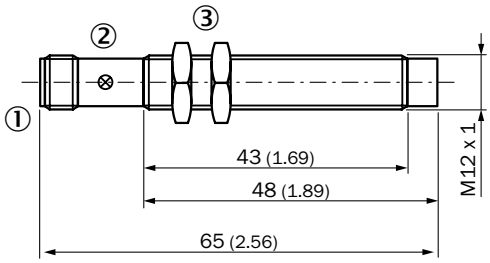

① Connection
② LED indicator
③ Fastening nuts (2 x); width across 17, metal

### IME12 Standard, cable, non-flush



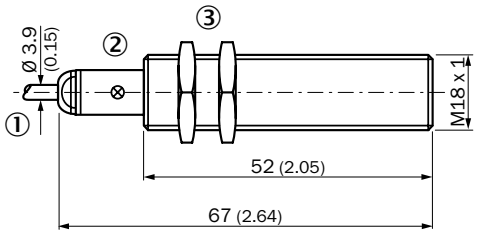

① Connection
② LED indicator
③ Fastening nuts (2 x); width across 17, metal

### IME12 Standard, connector, non-flush



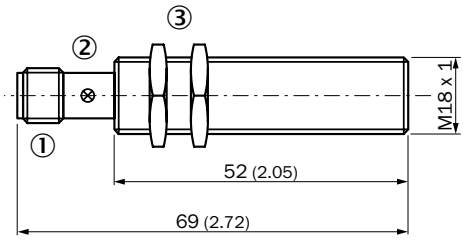

① Connection
② LED indicator
③ Fastening nuts (2 x); width across 17, metal

### IME18 Standard, cable, flush




① Connection
② LED indicator
③ Fastening nuts (2 x); 24 mm hex, metal

### IME18 Standard, connector, flush




① Connection
② LED indicator
③ Fastening nuts (2 x); 24 mm hex, metal



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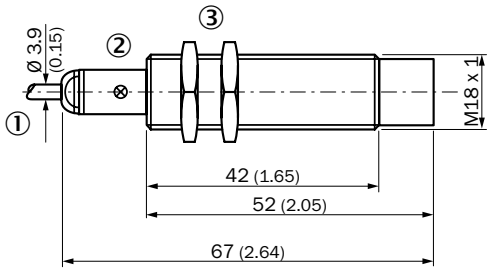
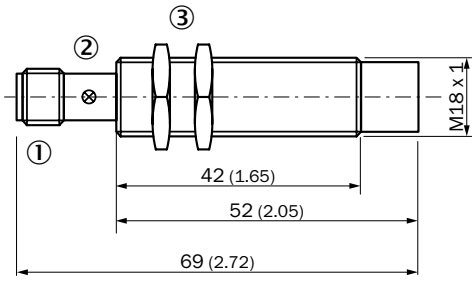
IME18 Standard, cable, non-flush



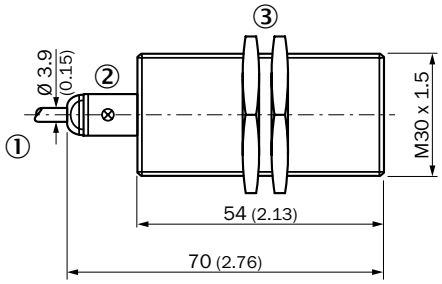

① Connection
② LED indicator
③ Fastening nuts (2 x); 24 mm hex, metal

IME18 Standard, connector, non-flush



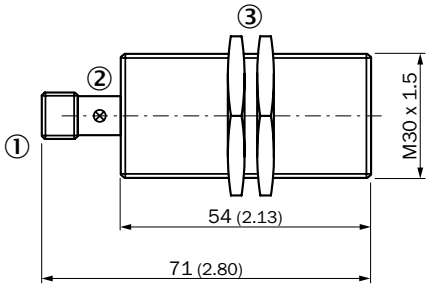

① Connection
② LED indicator
③ Fastening nuts (2 x); 24 mm hex, metal

IME30 Standard, cable, flush



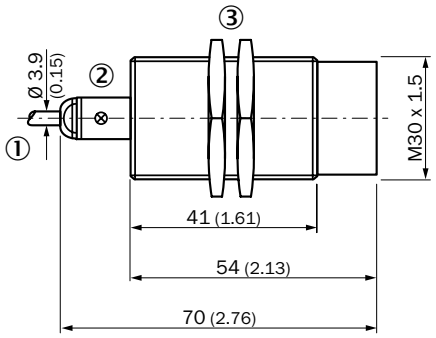

① Connection
② LED indicator
③ Fastening nuts (2 x); 36 mm hex, metal

IME30 Standard, connector, flush



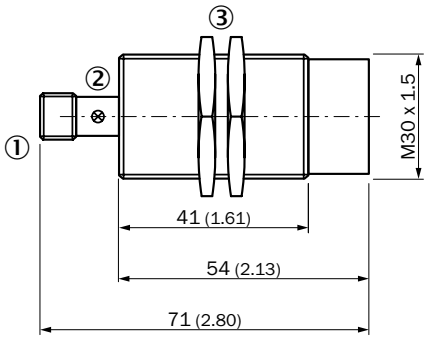

① Connection
② LED indicator
③ Fastening nuts (2 x); 36 mm hex, metal

IME30 Standard, cable, non-flush




① Connection
② LED indicator
③ Fastening nuts (2 x); 36 mm hex, metal

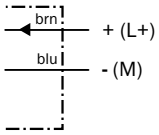
IME30 Standard, connector, non-flush



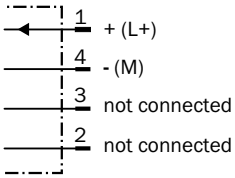

① Connection
② LED indicator
③ Fastening nuts (2 x); 36 mm hex, metal

## Connection diagram

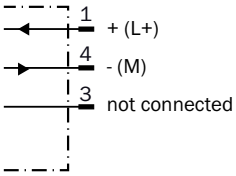
Cd-012



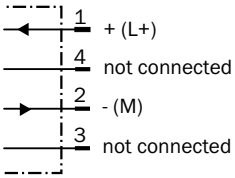

Cd-015



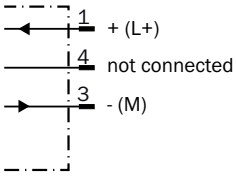

Cd-241




Cd-245




Cd-246



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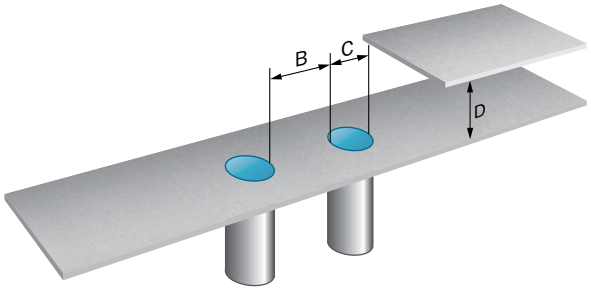
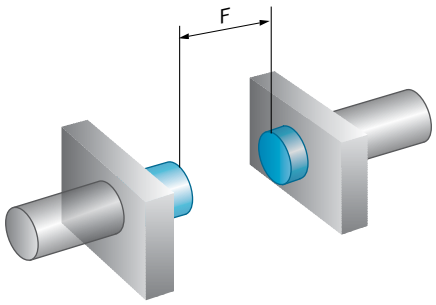
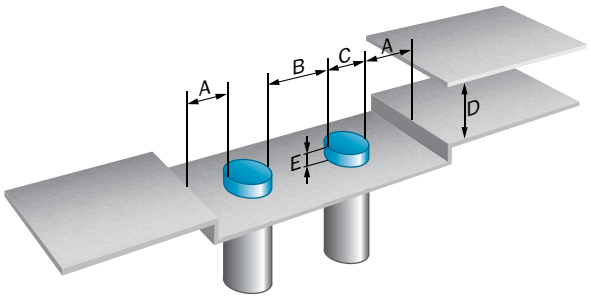
## Installation note

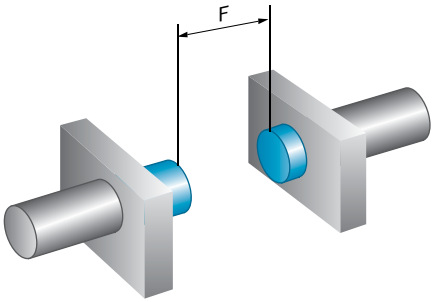
Flush installation




Non-flush installation



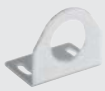

| | Installation type | Sensing range Sn | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|
| **IME08-02Bxxxxxx** | **Flush** | **2 mm** | – | 16 mm | 8 mm | 6 mm | – | 16 mm |
| **IME08-04Nxxxxxx** | **Non-flush** | **4 mm** | 8 mm | 18 mm | 8 mm | 12 mm | 8 mm | 32 mm |
| **IME12-04Bxxxxxx** | **Flush** | **4 mm** | - | 24 mm | 12 mm | 12 mm | - | 32 mm |
| **IME12-08Nxxxxxx** | **Non-flush** | **8 mm** | 12 mm | 24 mm | 12 mm | 24 mm | 16 mm | 64 mm |
| **IME18-08Bxxxxxx** | **Flush** | 8 mm | - | 36 mm | 18 mm | 24 mm | - | 64 mm |
| **IME18-12Nxxxxxx** | **Non-flush** | 12 mm | 18 mm | 36 mm | 18 mm | 36 mm | 24 mm | 96 mm |
| **IME30-15Bxxxxxx** | **Flush** | 15 mm | – | 60 mm | 30 mm | 45 mm | – | 120 mm |
| **IME30-20Nxxxxxx** | **Non-flush** | 20 mm | 30 mm | 60 mm | 30 mm | 60 mm | 40 mm | 160 mm |

## Recommended accessories

### Mounting brackets/plates

Mounting brackets

- **Material:** Steel, zinc coated

| Figure | Description | Specialty | Items supplied | Model name | Part no. | IME08 | IME12 | IME18 | IME30 |
|---|---|---|---|---|---|---|---|---|---|
| | Mounting plate for M8 sensors | Straight | Without mounting hardware | BEF-WG-M08 | 5321722 | ● | – | – | – |
| | Mounting plate for M12 sensors | Straight | Without mounting hardware | BEF-WG-M12 | 5321869 | – | ● | – | – |
| | Mounting plate for M18 sensors | Straight | Without mounting hardware | BEF-WG-M18 | 5321870 | – | – | ● | – |
| | Mounting plate for M30 sensors | Straight | Without mounting hardware | BEF-WG-M30 | 5321871 | – | – | – | ● |
| | Mounting bracket, M8 thread | – | Without mounting hardware | BEF-WN-M08 | 5321721 | ● | – | – | – |
| | Mounting bracket, M12 thread | Right angle | Without mounting hardware | BEF-WN-M12 | 5308447 | – | ● | – | – |
| | Mounting bracket, M18 thread | Angled | Without mounting hardware | BEF-WN-M18 | 5308446 | – | – | ● | – |
|  | Mounting bracket, M30 thread | – | Without mounting hardware | BEF-WN-M30 | 5308445 | – | – | – | ● |

### Plug connectors and cables

Connecting cable (female connector-open)

- **Connection type head B:** cable
- **Connector material:** TPU

| Figure | Connection type head A | Jacket material | Enclosure rating | Locking nut material | Specialty | Cable length | Model name | Part no. |
|---|---|---|---|---|---|---|---|---|
| | Female connector, M8, 3-pin, straight | PVC | IP 67 | CuZn | – | 2 m | DOL-0803-G02M | 6010785 |
| | | | | | | 5 m | DOL-0803-G05M | 6022009 |
| | Female connector, M8, 3-pin, angled | PVC | IP 67 | CuZn | – | 2 m | DOL-0803-W02M | 6008489 |
| | | | | | | 5 m | DOL-0803-W05M | 6022010 |



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| Figure | Connection type head A | Jacket material | Enclosure rating | Locking nut material | Specialty | Cable length | Model name | Part no. |
|---|---|---|---|---|---|---|---|---|
| | Female connector, M12, 4-pin, straight | PVC | IP 67 | CuZn | – | 2 m | DOL-1204-G02M | 6009382 |
| | | | | | | 5 m | DOL-1204-G05M | 6009866 |
| | | PUR, halogen-free | IP 65, IP 68 | Zinc die-cast, nickel-plated | Drag chain use | 2 m | DOL-1204-G02MC | 6025900 |
| | | | | | | 5 m | DOL-1204-G05MC | 6025901 |
| | Female connector, M12, 4-pin, angled | PVC | IP 67 | CuZn | – | 2 m | DOL-1204-W02M | 6009383 |
| | | | | | | 5 m | DOL-1204-W05M | 6009867 |

## Universal bar clamp systems

| Figure | Description | Material | Items supplied | Model name | Part no. |
|---|---|---|---|---|---|
| | Plate N10 for universal clamp bracket | Zinc plated steel (sheet), Diecast zinc (clamp) | Universal clamp, mounting hardware | BEF-KHS-N10 | 2062372 |

## Terminal and alignment brackets

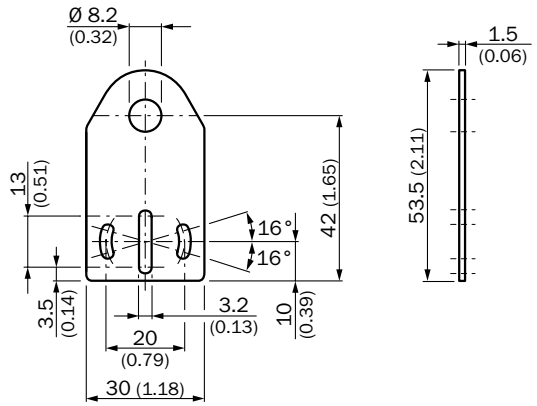
### Terminal brackets

- **Material:** Plastic (PA12), glass-fiber reinforced

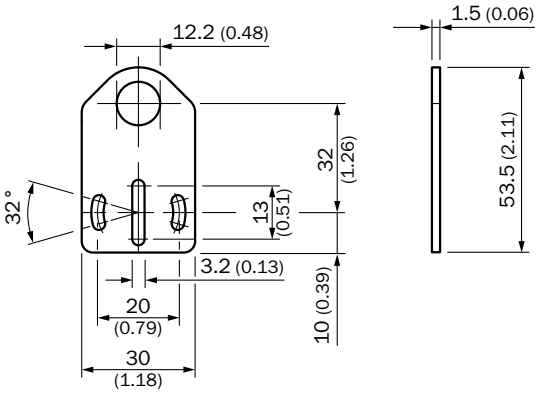
| Figure | Description | Specialty | Items supplied | Model name | Part no. | IME08 | IME12 | IME18 | IME30 |
|---|---|---|---|---|---|---|---|---|---|
| | Clamping block for round sensors M8 | Without fixed stop | Mounting hardware included | BEF-KH-M08 | 2051477 | ● | – | – | – |
| | Clamping block for round sensors M12 | | | BEF-KH-M12 | 2051479 | – | ● | – | – |
| | Clamping block for round sensors M18 | | | BEF-KH-M18 | 2051481 | – | – | ● | – |
| | Clamping block for round sensors M8 | With fixed stop | Mounting hardware included | BEF-KHF-M08 | 2051478 | ● | – | – | – |
| | Clamping block for round sensors M12 | | | BEF-KHF-M12 | 2051480 | – | ● | – | – |
| | Clamping block for round sensors M18 | | | BEF-KHF-M18 | 2051482 | – | – | ● | – |

## Dimensional drawings mounting brackets/plates

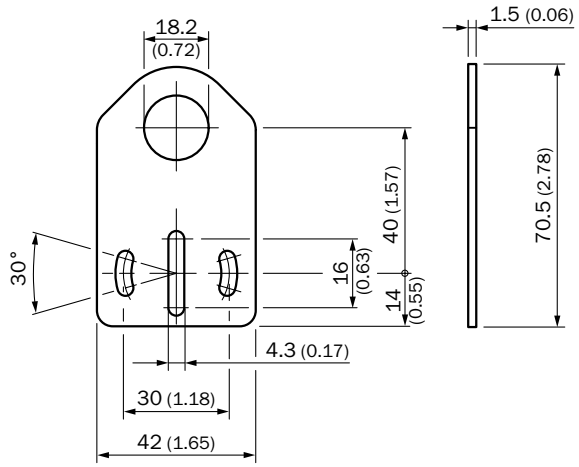
BEF-WG-M08



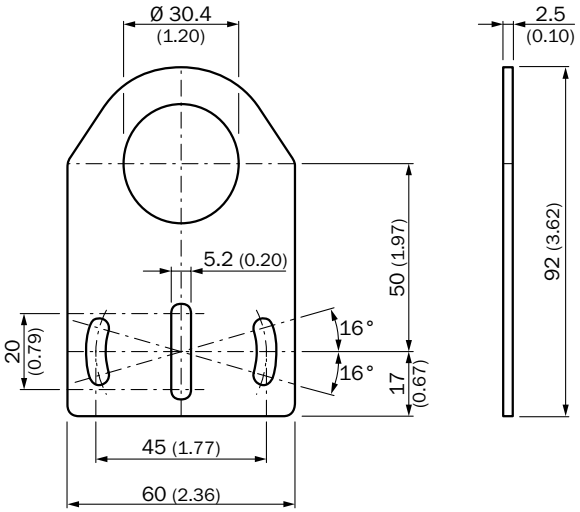

BEF-WG-M12



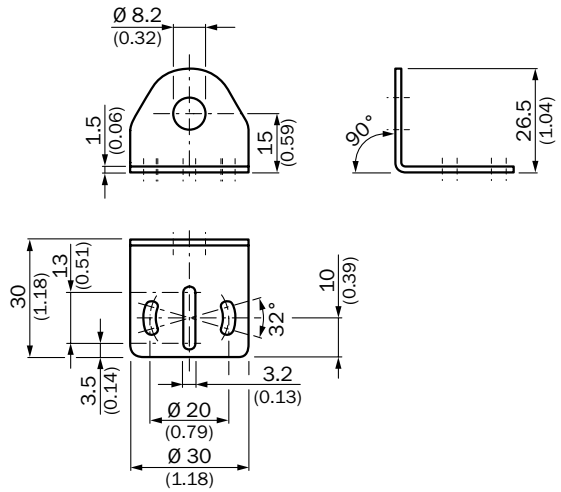

BEF-WG-M18



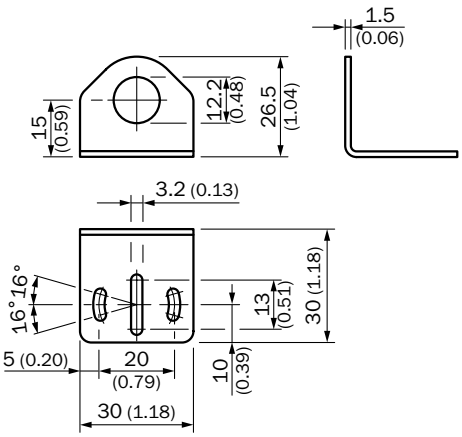

BEF-WG-M30




BEF-WN-M08




BEF-WN-M12



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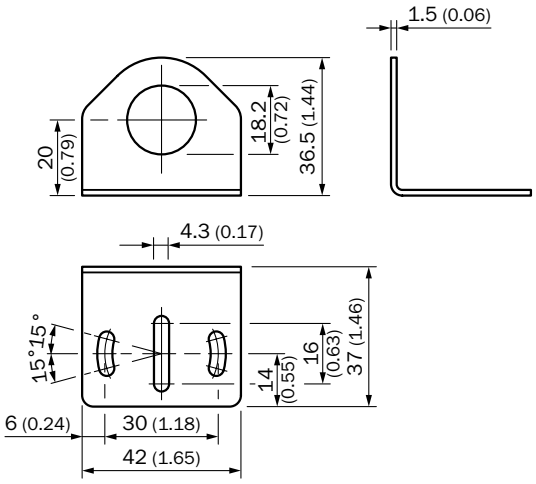
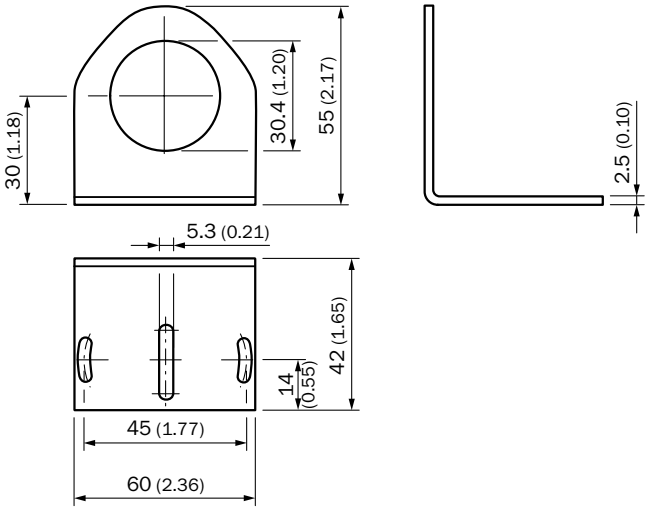
BEF-WN-M18

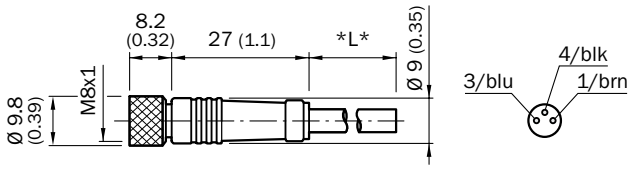



BEF-WN-M30

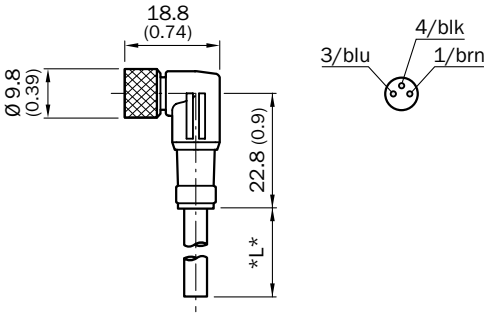



## Dimensional drawings plug connectors and cables

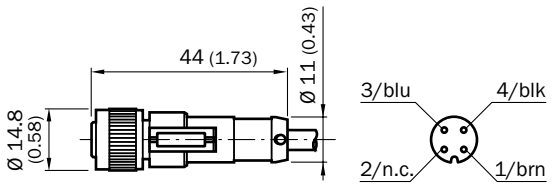
DOL-0803-GxxM



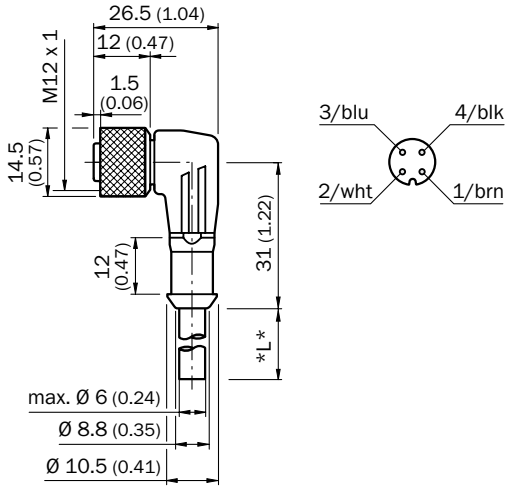

DOL-0803-WxxM




DOL-1204-GxxM; DOL-1204-GxxMC

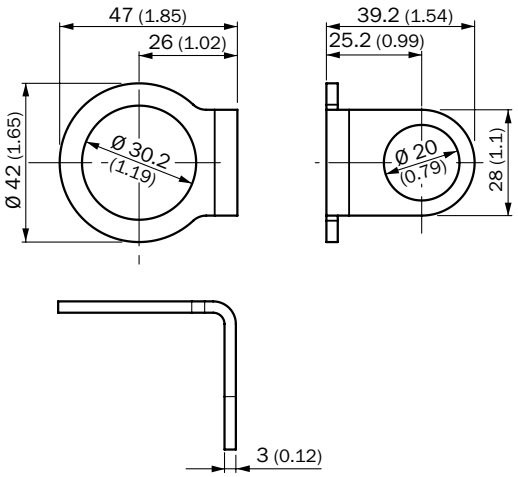



DOL-1204-WxxM



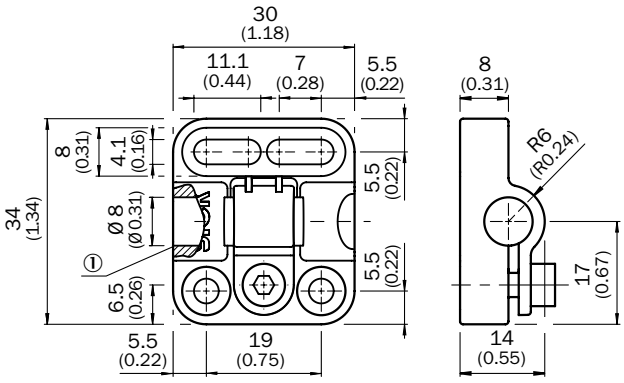
## Dimensional drawings universal bar clamp systems

BEF-KHS-N10

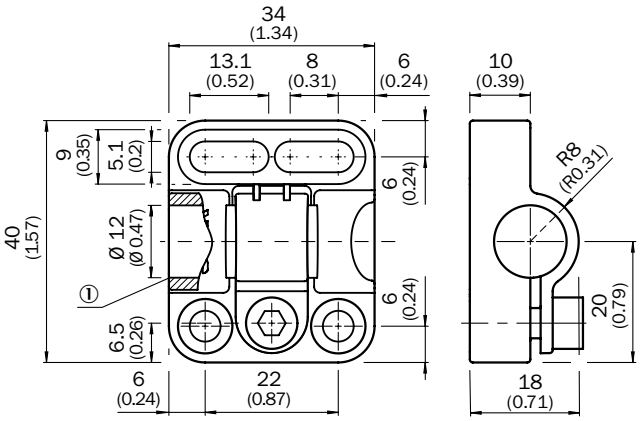



## Dimensional drawings terminal and alignment brackets

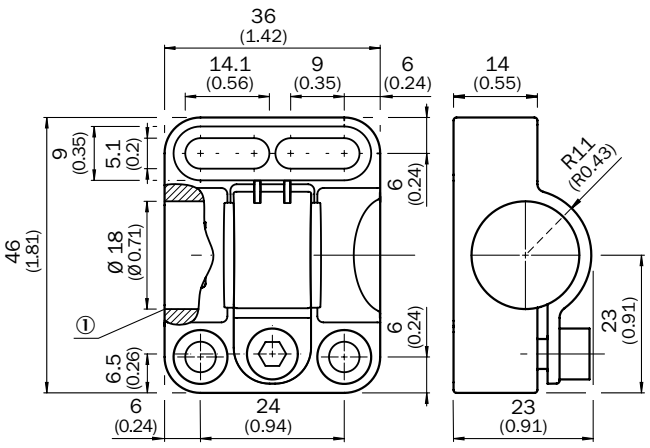
BEF-KH-M08



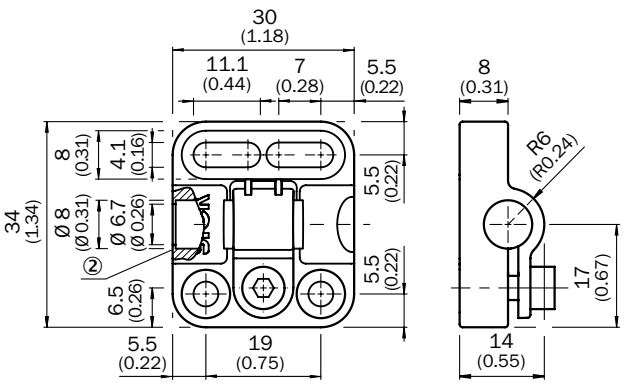

BEF-KH-M12




BEF-KH-M18




BEF-KHF-M08




① Without fixed stop



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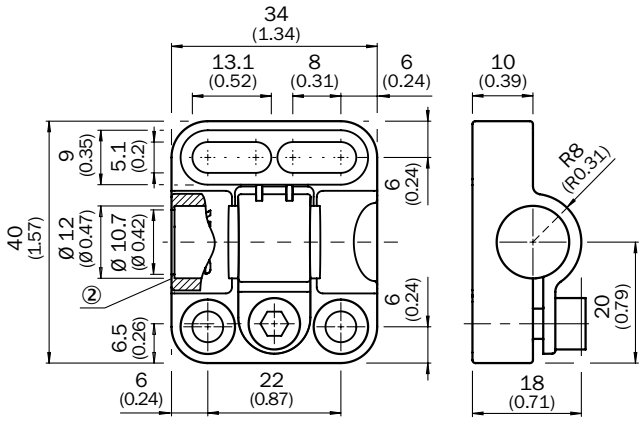
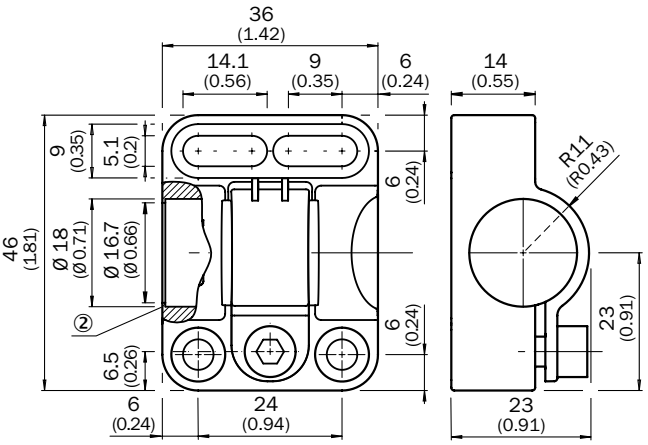
BEF-KHF-M12




BEF-KHF-M18




② With fixed stop

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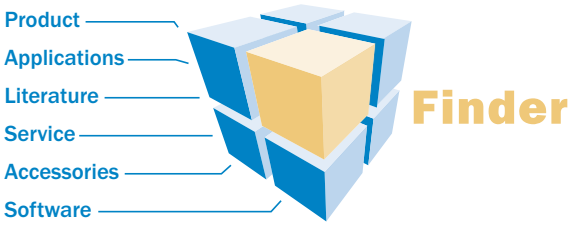


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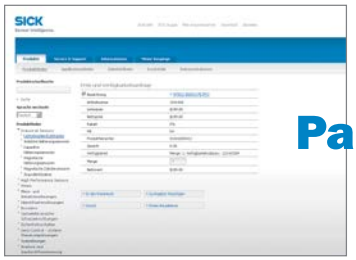

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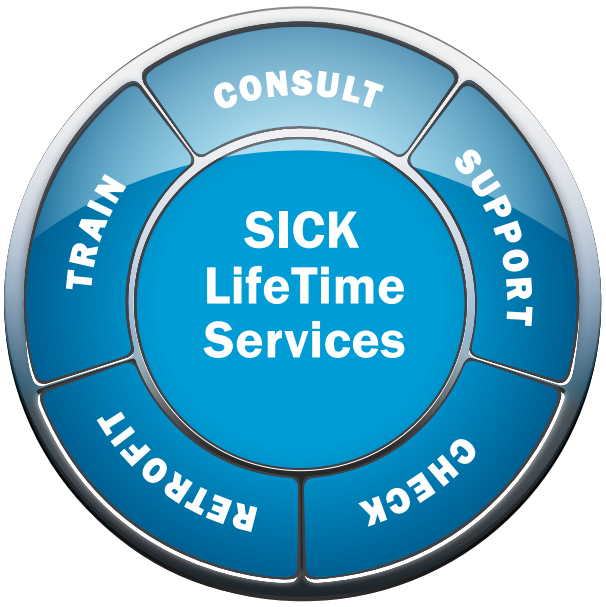


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