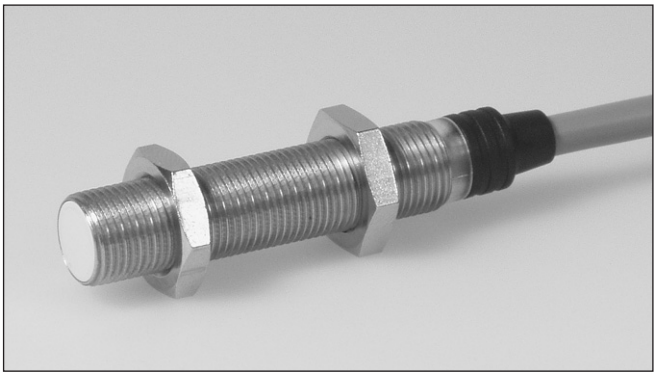
# Proximity Sensors Inductive Nickel-Plated Brass Housing Types IA, M12, 3236



- **Sensing distance: 2 mm**
- **Flush type**
- **Long and short body**
- **Rated operational voltage: 10 - 40 VDC**
- **Output: DC 200 mA, PNP**
- **Make and break switching function**
- **LED-indication**
- **Protection: reverse polarity, short circuit, transients**
- **Cable version**

CE

## Product Description

A family of inexpensive general purpose inductive proximity switches in industrial standard nickel-plated brass housings. M12 type. They are able to handle simple applications where a basic sensor provides adequate sensing performance. Output are open collector PNP transistor. Available with cable.

## Ordering Key

**IA12DSF02PO3236**

- **Type**
- **Housing style**
- **Housing size**
- **Housing material**
- **Housing length**
- **Detection principle**
- **Sensing distance**
- **Output type**
- **Output configuration**
- **Special no.**

## Type Selection

| Housing diameter | Connection | Body style | Rated operating distance $S_n$ | Ordering no. PNP Make switching |
|---|---|---|---|---|
| M12 | Cable | Short | 2 mm 1) | **IA 12 DSF 02 PO3236** |
| M12 | Cable | Long | 2 mm 1) | **IA 12 DLF 02 PO3236** |

1) For flush mounting in metal

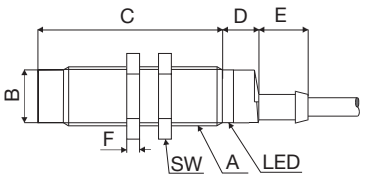
## Specifications

| | |
|---|---|
| **Rated operational voltage** ($U_B$) | 10 to 40 VDC (ripple incl.) |
| **Ripple** | ≤ 10% |
| **Output current** ($I_e$) | ≤ 200 mA @ 50°C<br>(≤ 150 mA @ 50-70°C) |
| **No load supply current** ($I_O$) | **IA 12** ≤ 10 mA |
| **Voltage drop** ($U_d$) | Max. 2.5 VDC @ 200 mA |
| **Protection** | Reverse polarity,<br>short-circuit, transients |
| **Transient voltage** | 1 kV/0.5 J |
| **Power ON delay** ($t_v$) | 50 ms |
| **Operating frequency** (f)<br>**Indication for output ON** | **IA12 ..F 02** ≤ 2000 Hz<br>LED, yellow |
| **Assured operating sensing distance** ($S_a$) | $0 \le S_a \le 0.81 \times S_n$ |
| **Effective operating distance ($S_r$)** | $0.9 \times S_n \le S_r \le 1.1 \times S_n$ |
| **Usable operating distance** ($S_u$) | $0.9 \times S_r \le S_u \le 1.1 \times S_r$ |
| **Repeat accuracy** (R) | ≤ 5% |
| **Differential travel** (H)<br>(Hysteresis) | 1 to 15% of sensing dist. |

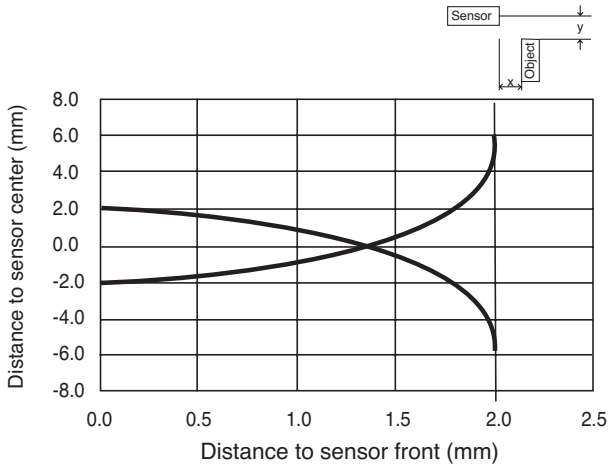
| | |
|---|---|
| **Ambient temperature** | |
| Operating | -25° to +70°C (-13° to +158°F) |
| Storage | -30° to +80°C (-22° to +176°F) |
| **Housing material** | |
| Body | Nickel-plated brass |
| Front | Grey thermoplastic polyester |
| Backpart | |
| Cable | PBTP (black polyester) |
| Nuts | NPB |
| **Connection** | |
| Cable | 2 m, 3 x 0.14 mm², grey PUR,oil proof |
| Outer diameter | 4.1 mm |
| **Degree of protection** | IP 67 |
| **Weight** (cable/nuts included) | **IA 12 .S.** 100 g<br>**IA 12 .L.** 105 g |
| **Tightening torque** | **IA 12** 7.0 Nm (x)<br>15.0 Nm (y) |
| **CE-marking** | Yes |

## Dimensions

| Type | A | B Ø mm | C mm | D mm | E mm | F mm | SW mm |
|---|---|---|---|---|---|---|---|
| **IA 12 DSF 02 .O** | M12 x 1 x 30 | 10.7 | 30 | 11 | 5.0 | 4 | 17 |
| **IA 12 DLF 02 .O** | M12 x 1 x 50 | 10.7 | 50 | 11 | 5.0 | 4 | 17 |

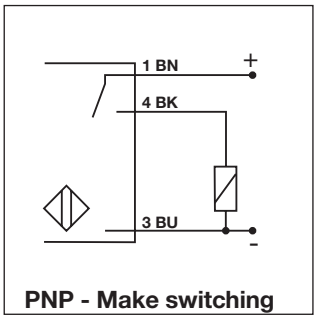



## Detection Diagrams




IA12xSF02..

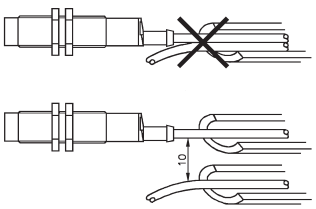
## Wiring Diagrams



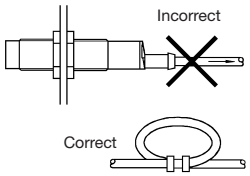

**PNP - Make switching**

## Installation Hints

*To avoid interference from inductive voltage/ current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables*

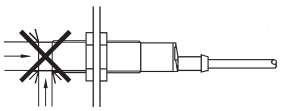



*Relief of cable strain*



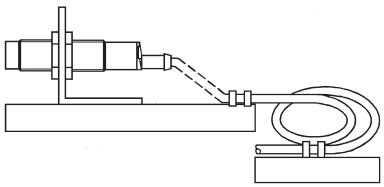

The cable should not be pulled

*Protection of the sensing face*



A proximity switch should not serve as mechanical stop

*Switch mounted on mobile carrier*



Any repetitive flexing of the cable should be avoided

## Delivery Contents

- Inductive promimity switch IA..
- 2 nuts NPB
- Packaging: plastic bag