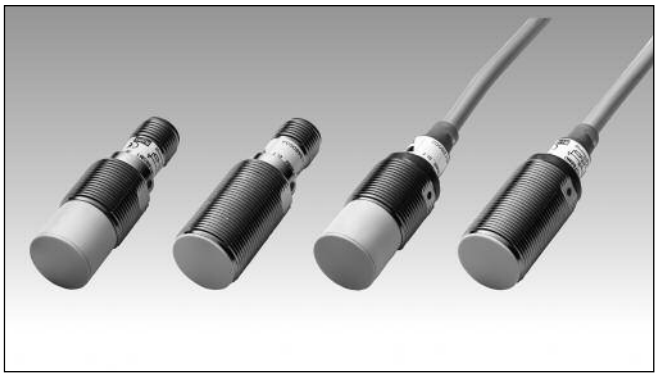
Proximity Inductive Sensors
Extended Range, Nickel-Plated Brass Housing
Types ICB, M18



- **Sensing distance: 8 to 14 mm**
- **Flush and non-flush types**
- **Short and long body versions**
- **Rated operational voltage (U_b): 10 - 36 VDC**
- **Output: DC 200 mA, NPN or PNP**
- **Normally open, Normally closed**
- **LED indication for output ON**
- **Protection: reverse polarity, short circuit, transients**
- **Cable and M12 plug versions**
- **According to IEC 60947-5-2**
- **CSA certified for Hazardous Locations**

Product Description

A family of inductive proximity switches in industrial standard nickel-plated brass housings. They are able to handle applications where high sensing range is requested.
Output is open collector NPN or PNP transistors.

Ordering Key

ICB18SF08NOM1

- **Type**
- **Housing style**
- **Housing material**
- **Housing size**
- **Housing length**
- **Detection principle**
- **Sensing distance**
- **Output type**
- **Output configuration**
- **Connection**

Type Selection

Connection	Body style	Rated operating distance S_n	Ordering no. NPN Normally open	Ordering no. PNP Normally open	Ordering no. NPN Normally closed	Ordering no. PNP Normally closed
Cable	Short	8 mm 1)	**ICB 18 SF 08 NO**	**ICB 18 SF 08 PO**	**ICB 18 SF 08 NC**	**ICB 18 SF 08 PC**
Cable	Short	14 mm 2)	**ICB 18 SN 14 NO**	**ICB 18 SN 14 PO**	**ICB 18 SN 14 NC**	**ICB 18 SN 14 PC**
Plug	Short	8 mm 1)	**ICB 18 SF 08 NOM1**	**ICB 18 SF 08 POM1**	**ICB 18 SF 08 NCM1**	**ICB 18 SF 08 PCM1**
Plug	Short	14 mm 2)	**ICB 18 SN 14 NOM1**	**ICB 18 SN 14 POM1**	**ICB 18 SN 14 NCM1**	**ICB 18 SN 14 PCM1**
Cable	Long	8 mm 1)	**ICB 18 LF 08 NO**	**ICB 18 LF 08 PO**	**ICB 18 LF 08 NC**	**ICB 18 LF 08 PC**
Cable	Long	14 mm 2)	**ICB 18 LN 14 NO**	**ICB 18 LN 14 PO**	**ICB 18 LN 14 NC**	**ICB 18 LN 14 PC**
Plug	Long	8 mm 1)	**ICB 18 LF 08 NOM1**	**ICB 18 LF 08 POM1**	**ICB 18 LF 08 NCM1**	**ICB 18 LF 08 PCM1**
Plug	Long	14 mm 2)	**ICB 18 LN 14 NOM1**	**ICB 18 LN 14 POM1**	**ICB 18 LN 14 NCM1**	**ICB 18 LN 14 PCM1**

1) For flush mounting in metal

2) For non-flush mounting in metal

Specifications

Rated operational voltage (U_b)	10 to 36 VDC (ripple incl.)
Ripple	≤ 10%
Output current (I_e)	≤ 200 mA @ 50°C (≤ 150 mA @ 50-70°C)
OFF-state current (I_r)	≤ 50 µA
No load supply current (I_O)	≤ 15 mA
Voltage drop (U_d)	Max. 2.5 VDC @ 200 mA
Protection	Reverse polarity, short-circuit, transients
Dielectric impulse voltage withstand	1 kV/0.5 J
Power ON delay (t_v)	300 ms
Operating frequency (f)	≤ 1500 Hz
Indication for output ON NO version NC version	Activated LED, yellow Target present Target not present

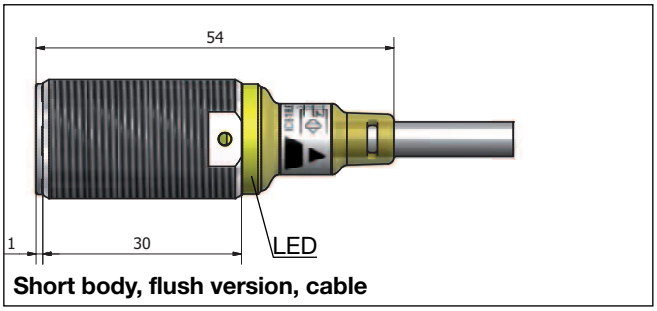
Indication for short circuit/ overload	LED blinking
Assured operating sensing distance (S_a)	$0 \le S_a \le 0.81 \times S_n$
Effective operating distance (S_r)	$0.9 \times S_n \le S_r \le 1.1 \times S_n$
Usable operating distance (S_u)	$0.9 \times S_r \le S_u \le 1.1 \times S_r$
Repeat accuracy (R)	≤ 10%
Differential travel (H) (Hysteresis)	1 to 20% of sensing dist.
Shock and vibration	IEC 60947-5-2/7.4
Ambient temperature Operating Storage	 -25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)
Housing material Body Front	 Nickel-plated brass Grey thermoplastic polyester

Specifications (cont.)

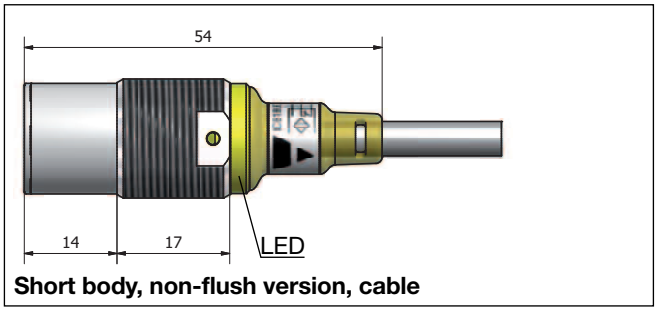
Connection	
Cable	2 m, 3 x 0.3 mm², grey PVC, oil proof
Plug	M12 x 1
Degree of protection	IP 67
Weight (cable/nuts included)	
Cable	Max. 150 g
Plug	Max. 70 g
Dimensions	See diagrams below
Tightening torque	
Non-flush version	25 Nm
Flush version	
From 1 to 3 mm	15 Nm
> 3 mm	25 Nm
Approvals	
UL (cRUus), CSA:	As Industrial Control Equipment - Proximity Switches. Types 1, 4, 4X or 12. Max ambient temperature 40°C.

Approvals (cont.)	
cCSAus	As Process Control Equipment for Hazardous Locations. - Class I, Division 2, Groups A, B, C and D. - Class I, Zone 1, AEx/Ex d IIB+H2, T5, Enclosure Type 4. Ambient temperature Ta: -25° to +60°C. **Note:** AEx for USA, Ex for Canada
CE-marking	Yes
EMC protection	According to IEC 60947-5-2
IEC 61000-4-2 (ESD)	8 KV air discharge, 4 KV contact discharge
IEC 61000-4-3	3 V/m
IEC 61000-4-4	2 kV
IEC 61000-4-6	3 V
IEC 61000-4-8	30 A/m

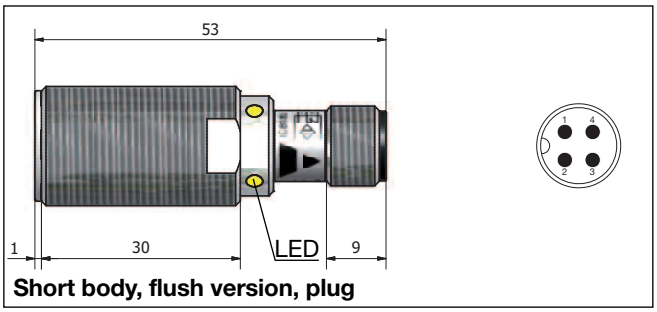
Dimensions



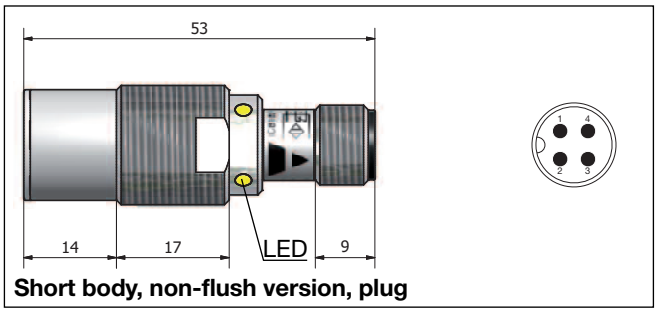
Short body, flush version, cable



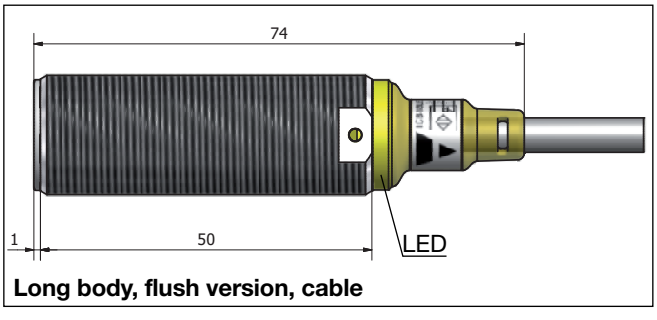
Short body, non-flush version, cable



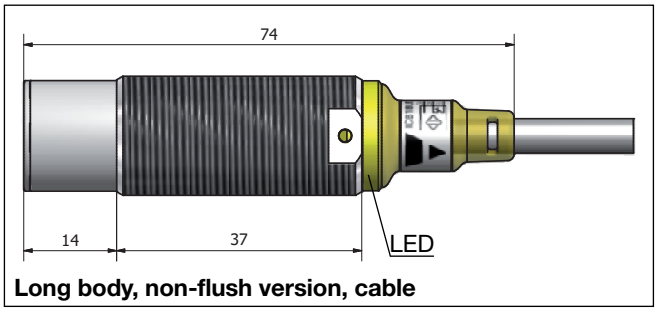
Short body, flush version, plug



Short body, non-flush version, plug

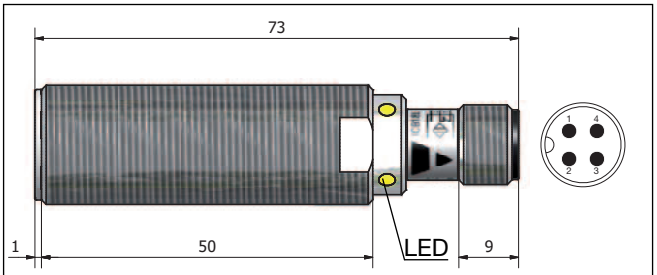


Long body, flush version, cable

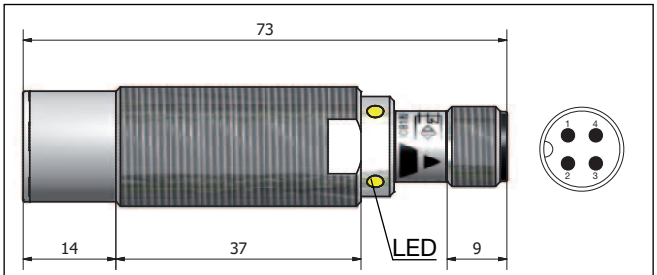


Long body, non-flush version, cable

Dimensions (cont.)



Long body, flush version, plug

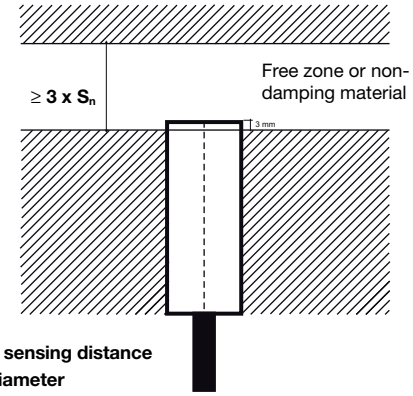


Long body, non-flush version, plug

Installation

Flush sensor, when installed in damping material, must be according to Picture 1A.

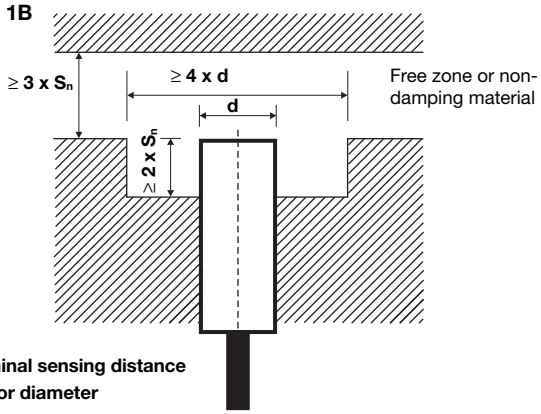
Picture 1A



S_n : nominal sensing distance
d : sensor diameter

Non-flush sensor, when installed in damping material, must be according to Picture 1B.

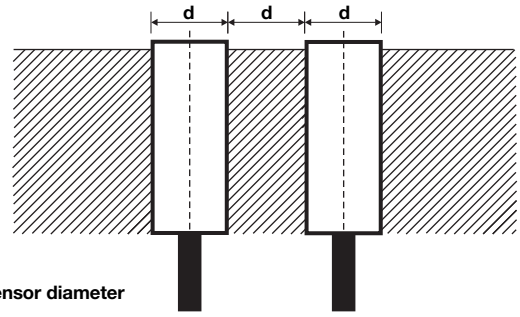
Picture 1B



S_n : nominal sensing distance
d : sensor diameter

Flush sensors, when installed together in damping material, must be according to Picture 2A.

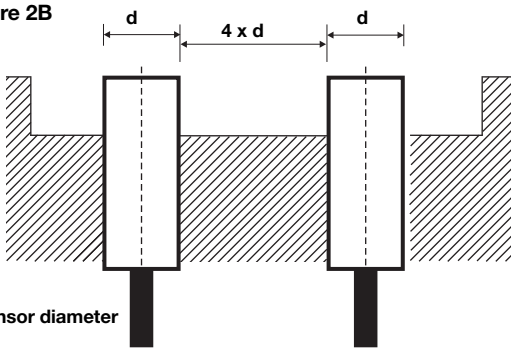
Picture 2A



d : sensor diameter

Non-flush sensors, when installed together in damping material, must be according to Picture 2B.

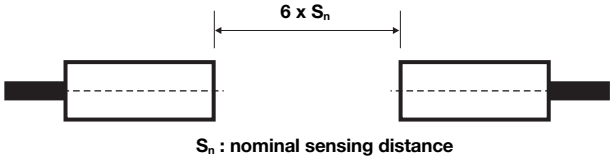
Picture 2B



d : sensor diameter

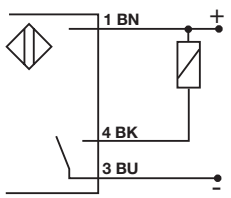
For sensors installed opposite each other, a minimum space of 6 x Sn (the nominal sensing distance) must be observed (See Picture 3).

Picture 3

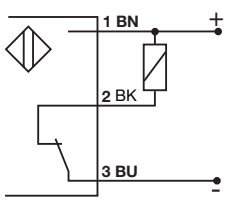


S_n : nominal sensing distance

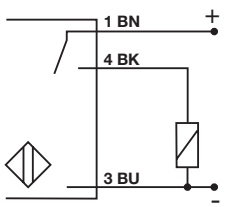
Wiring Diagrams



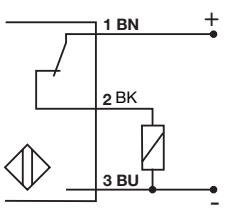
NPN - Normally open



NPN - Normally closed



PNP - Normally open



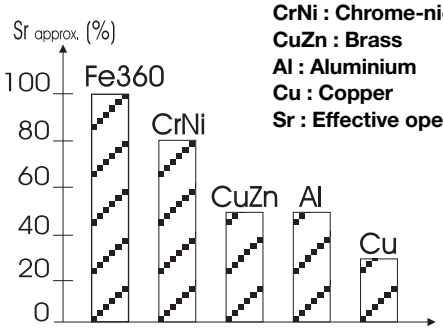
PNP - Normally closed

Reduction factors

The rated operating distance is reduced by the use of metals and alloys other than Fe360.

The most important reduction factors for inductive proximity sensors are shown in Picture 4.

Picture 4



Fe360 : Steel
CrNi : Chrome-nickel
CuZn : Brass
Al : Aluminium
Cu : Copper
Sr : Effective operating distance

Accessories for Plug Versions

3-wire angled connector, 2 m cable	**CONM13NF-A2**
3-wire angled connector, 5 m cable	**CONM13NF-A5**
3-wire angled connector, 10 m cable	**CONM13NF-A10**
3-wire stright connector, 2m cable	**CONM13NF-S2**
3-wire stright connector, 5m cable	**CONM13NF-S5**

For any additional information or different options, please refer to the "General Accessories" datasheets.

Delivery Contents

- Inductive proximity switch ICB.
- 2 nuts NPB
- Packaging: plastic bag

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

Carlo Gavazzi:

ICB18S30N08PO DAC01CM40 DCB51CM24 GT32S8A ICB12L50F06POM1 RKD2A60D75C CGT-12M-1.0 PA18CAT20M1 NRGC-EIP RSBS2332A2V23C24HP WM20AV63H DLA71DB232P FAA08DW24 NRGC-PN RCP1100324VDC RGC3A60A65GGEAFM RM1A23A50 RSE4012-B EM24DINAV53XE1X BPH CC65/4SA120 ER 1830 NPAS-1 GFX11 GMB633PC15 GMS-63H 40A RZ3A60D40 CGMS-12A-120-01 DIB01CD4810A DMB71DW24 DUA52C724