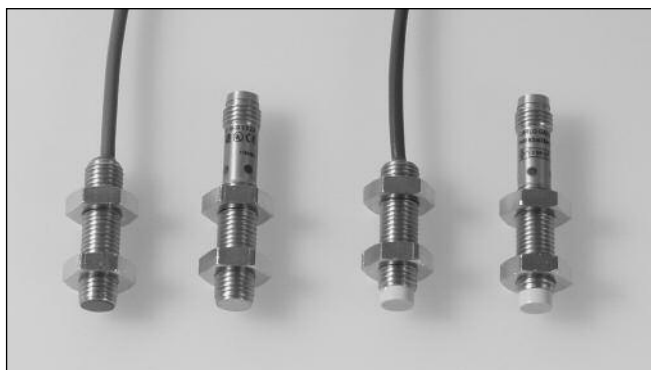


# Proximity Inductive Sensors

## Extended range, Stainless Steel Housing

### Types IA, M8

CARLO GAVAZZI



- Sensing distance: 2 to 4 mm
- Flush and non-flush types
- Short body
- Rated operational voltage: 10 - 30 VDC
- Output: DC 200 mA, NPN or PNP, normally open or normally closed
- LED-indication
- Protection: reverse polarity, short-circuit, transients
- Cable and plug versions

## Product Description

A family of extended range inductive proximity switches in industrial stainless steel housings. They are able to handle applications where high sensing range is requested.

Outputs are open collector NPN or PNP transistors. Available with cable and M8 plug.

## Ordering Key

**IA08BSF20NOM5**

Type \_\_\_\_\_  
Housing style \_\_\_\_\_  
Housing size \_\_\_\_\_  
Housing material \_\_\_\_\_  
Housing length \_\_\_\_\_  
Detection principle \_\_\_\_\_  
Sensing distance \_\_\_\_\_  
Output type \_\_\_\_\_  
Output configuration \_\_\_\_\_  
Connection type \_\_\_\_\_

## Type Selection

| Rated operating dist. (S <sub>n</sub> ) | Conn. type | Ordering no. Transistor NPN Normally open | Ordering no. Transistor NPN Normally closed | Ordering no. Transistor PNP Normally open | Ordering no. Transistor PNP Normally closed |
|---|------------|---|---|---|---|
| 2 mm <sup>1)</sup>                      | Cable      | IA 08 BSF 20 NO                           | IA 08 BSF 20 NC                             | IA 08 BSF 20 PO                           | IA 08 BSF 20 PC                             |
| 2 mm <sup>1)</sup>                      | Plug       | IA 08 BSF 20 NO M5                        | IA 08 BSF 20 NC M5                          | IA 08 BSF 20 PO M5                        | IA 08 BSF 20 PC M5                          |
| 4 mm <sup>2)</sup>                      | Cable      | IA 08 BSN 40 NO                           | IA 08 BSN 40 NC                             | IA 08 BSN 40 PO                           | IA 08 BSN 40 PC                             |
| 4 mm <sup>2)</sup>                      | Plug       | IA 08 BSN 40 NO M5                        | IA 08 BSN 40 NC M5                          | IA 08 BSN 40 PO M5                        | IA 08 BSN 40 PC M5                          |

<sup>1)</sup> For flush mounting in metal

<sup>2)</sup> For non-flush mounting in metal

## Specifications

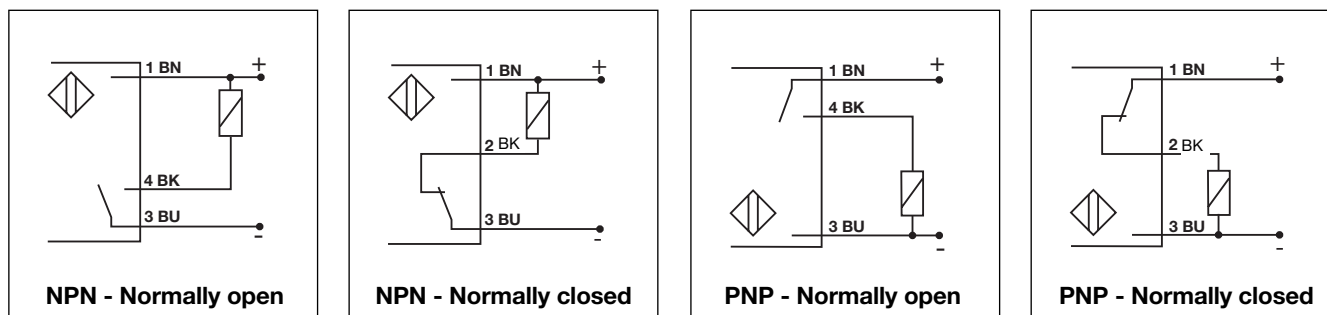
|   |   |   |   |
|---|---|---|---|
| Rated operational voltage (U <sub>B</sub> ) | 10 to 30 VDC (ripple incl.)   | Usable operating distance (S <sub>u</sub> )                   | 0.85 x S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.15 x S <sub>r</sub>                          |
| Ripple                                      | ≤ 10%   | Repeat accuracy (R)   | ≤ 5%  |
| Output current (I <sub>e</sub> )            | ≤ 200 mA<br>Derating:<br>From +50°C to +70°C,<br>I <sub>e</sub> @ 70°C ≤ 150 mA | Differential travel (H)<br>(Hysteresis)                       | 1 to 20% of sensing dist.   |
| No load supply current (I <sub>o</sub> )    | ≤ 10 mA   | Ambient temperature<br>Operating<br>Storage                   | -25° to +70°C (-13° to +158°F)<br>-30° to +80°C (-22° to +176°F)                        |
| Voltage drop (U <sub>d</sub> )              | Max. 2.5 VDC @ 200 mA   | Housing material<br>Body<br>Front<br>Backpart<br>Plug<br>Nuts | Stainless steel (AISI 304/303)<br>Grey thermoplastic polyester<br>NPB<br>NPB            |
| Protection                                  | Reverse polarity,<br>short-circuit, transients                                  | Connection<br>Cable<br>Plug<br>Cables for plug (M5)           | 2 m, 3 x 0.14 mm <sup>2</sup> , Ø 3,2<br>grey PVC, oil proof<br>M8 x 1<br>CONH5A series |
| Transient voltage                           | 1 kV/0.5 J  | Degree of protection  | IP 67   |
| Power ON delay (t <sub>v</sub> )            | < 100 ms  |   |   |
| Operating frequency (f)                     | IA08 BSF ≥ 2000 Hz<br>IA08 BSN ≥ 1000 Hz  |   |   |
| Indication for output ON                    | LED, yellow   |   |   |
| Assured operating dist. (S <sub>a</sub> )   | 0 ≤ S <sub>a</sub> ≤ 0.81 x S <sub>n</sub>                                      |   |   |
| Effective operating dist. (S <sub>r</sub> ) | 0.9 x S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.1 x S <sub>n</sub>                    |   |   |



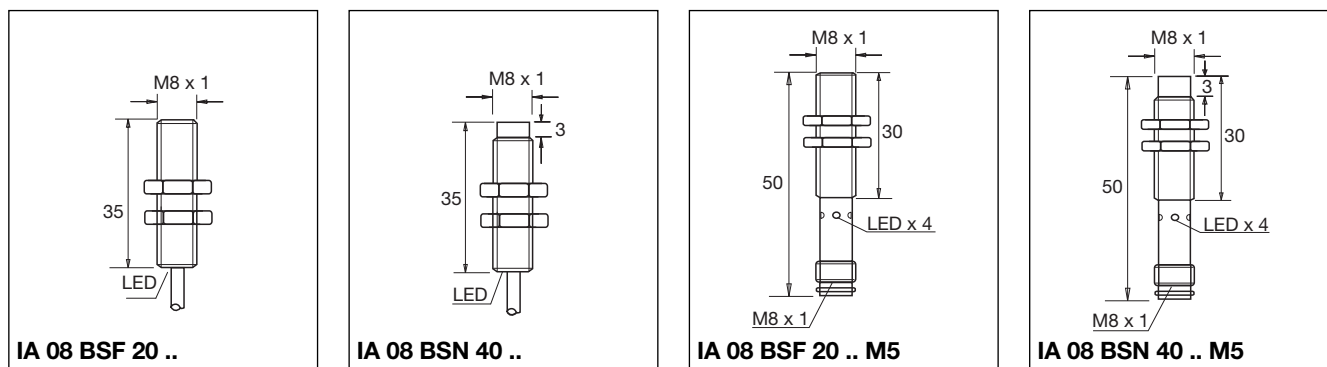
## Specifications (cont.)

|                              |             |                          |           |            |
|------------------------------|-------------|--------------------------|-----------|------------|
| Weight (cable/nuts included) | IA 08 ..    | Approx. 30 g             | Approvals | UL, CSA    |
|                              | IA 08 .. M5 | Approx. 5 g              |           | CE-marking |
| Tightening torque            |             | 5.0 Nm (x)<br>8.0 Nm (y) |           |            |

## Wiring Diagrams



## Dimensions



## Installation Hints

|   |   |   |  |
|---|---|---|--|
| <p>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</p> | <p>Relief of cable strain</p> <p>The cable should not be pulled</p> | <p>Protection of the sensing face</p> <p>A proximity switch should not serve as mechanical stop</p> | <p>Switch mounted on mobile carrier</p> <p>Any repetitive flexing of the cable should be avoided</p> |
|---|---|---|--|

## Delivery Contents

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