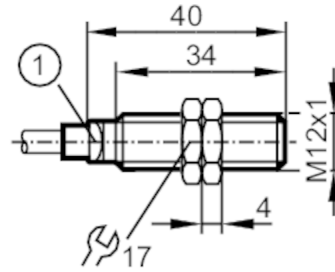


# IFR212



## Inductive full-metal sensor

IFB3004BBPKG/AM/SC/2M/PUR



1 LED 2-colour yellow/green



### Product characteristics

|                    |                  |
|--------------------|------------------|
| Electrical design  | PNP              |
| Output function    | normally open    |
| Sensing range [mm] | 4                |
| Housing            | threaded type    |
| Dimensions [mm]    | M12 x 1 / L = 40 |

### Application

|                         |  |
|-------------------------|--|
| Special feature         | Halogen-free; Drag chain suitability; Increased sensing range; Full-metal housing; Magnetic-field immune; anti-spatter |
| Application             | Use in welding applications  |
| Pressure rating [bar]   | 50   |
| Note on pressure rating | sensing face   |
| Magnetic-field immune   | yes  |

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...30 DC |
| Current consumption [mA]    | < 10       |
| Protection class            | III        |
| Reverse polarity protection | yes        |

### Outputs

|  |               |
|--|---------------|
| Electrical design                                    | PNP           |
| Output function                                      | normally open |
| Max. voltage drop switching output DC [V]            | 2.5           |
| Permanent current rating of switching output DC [mA] | 100           |
| Switching frequency DC [Hz]                          | 2             |
| Short-circuit protection                             | yes           |
| Overload protection                                  | yes           |

### Detection zone

|                            |          |
|----------------------------|----------|
| Sensing range [mm]         | 4        |
| Real sensing range Sr [mm] | 4 ± 10 % |
| Operating distance [mm]    | 0...3.24 |
| Increased sensing range    | yes      |

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| Accuracy / deviations         |  |  |
|-------------------------------|--|--|
| Correction factor             | steel: 1 / stainless steel: 0.7 / brass: 0.6 / aluminium: 0.5 / copper: 0.2  |  |
| Hysteresis [% of Sr]          | 3...15   |  |
| Switch point drift [% of Sr]  | -10...10   |  |
| Operating conditions          |  |  |
| Ambient temperature [°C]      | -40...85   |  |
| Protection                    | IP 65; IP 66; IP 67; IP 68; IP 69K   |  |
| Tests / approvals             |  |  |
| EMC                           | EN 61000-4-2 ESD   | 4 kV CD / 8 kV AD  |
|                               | EN 61000-4-3 HF radiated   | 10 V/m   |
|                               | EN 61000-4-4 Burst   | 2 kV   |
|                               | EN 61000-4-6 HF conducted  | 10 V   |
|                               | EN 55011   | class B  |
| Impact resistance             | 1 J  |  |
| Vibration resistance          | EN 60068-2-6 Fc  | 20 g (10...3000 Hz) / 50 sweep cycles, 1 octave per minute, in 3 axes            |
| Shock resistance              | EN 60068-2-27 Ea   | 100 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes |
| Continuous shock resistance   | EN 60068-2-27  | 40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes          |
| Fast temperature change       | EN 60068-2-14 Na   | TA = -40 °C; TB = 85 °C; t1 = 30 min; t2 = < 10 s; 50 cycles                     |
| Salt spray test               | EN 60068-2-52 Kb   | severity level 5 (4 test cycles)   |
| MTTF [years]                  | 1188   |  |
| UL approval                   | Ta   | -25...75 °C  |
|                               | Enclosure type   | Type 1   |
|                               | voltage supply   | Limited Voltage/Current  |
|                               | UL Approval no.  | A019   |
|                               | File number UL   | E174191  |
| Mechanical data               |  |  |
| Weight [g]                    | 86   |  |
| Housing                       | threaded type  |  |
| Mounting                      | flush mountable  |  |
| Dimensions [mm]               | M12 x 1 / L = 40   |  |
| Thread designation            | M12 x 1  |  |
| Materials                     | stainless steel (1.4404 / 316L) anti-spatter; sensing face: stainless steel (1.4404 / 316L) anti-spatter; LED window: PEI; lock nuts: brass anti-spatter |  |
| Tightening torque [Nm]        | 6  |  |
| Drag chain suitability        | yes  |  |
| Drag chain suitability        | bending radius for flexible use  | min. 10 x cable diameter   |
|                               | bending cycles   | > 5 Mio.   |
| Full-metal housing            | yes  |  |
| Displays / operating elements |  |  |
| Display                       | switching status   | LED, yellow  |
|                               | operation  | LED, green   |
| Accessories                   |  |  |
| Items supplied                | lock nuts: 2   |  |

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## Inductive full-metal sensor

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### Remarks

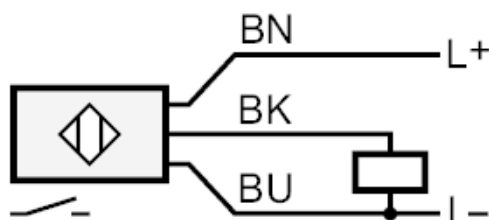
Pack quantity

1 pcs.

### Electrical connection

Cable: 2 m, PUR, Halogen-free, Ø 4.9 mm; not irradiated (can be recycled); 3 x 0.34 mm<sup>2</sup> / resistant to welding sparks

### Connection



#### Core colours

|    |       |
|----|-------|
| BK | black |
| BN | brown |
| BU | blue  |