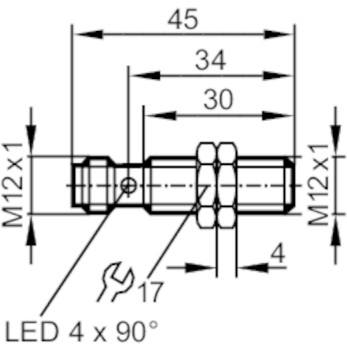


# IFR207



## Inductive full-metal sensor

IFB3004BBPKG/AM/SC/V4A/US-104



### Product characteristics

|                    |                  |
|--------------------|------------------|
| Electrical design  | PNP              |
| Output function    | normally open    |
| Sensing range [mm] | 4                |
| Housing            | threaded type    |
| Dimensions [mm]    | M12 x 1 / L = 45 |

### Application

|                                   |                                                                                          |
|-----------------------------------|------------------------------------------------------------------------------------------|
| Special feature                   | Gold-plated contacts; Increased sensing range; Full-metal housing; Magnetic-field immune |
| Application                       | Use in welding applications                                                              |
| Pressure rating [bar]             | 100                                                                                      |
| Pressure rating [MPa]             | 10                                                                                       |
| Note on pressure rating           | sensing face                                                                             |
| Magnetic-field immune             | yes                                                                                      |
| Max. magnetic field immunity [mT] | 100                                                                                      |

### 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 % |

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|                         |      |          |
|-------------------------|------|----------|
| Operating distance      | [mm] | 0...3.24 |
| Increased sensing range |      | yes      |

### 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                     |
| MTTF                        | [years]                   | 1176                                                                             |
| Embedded software included  |                           | yes                                                                              |
| UL approval                 | Ta                        | -25...70 °C                                                                      |
|                             | Enclosure type            | Type 1                                                                           |
|                             | power supply              | Limited Voltage/Current                                                          |
|                             | UL Approval no.           | A012                                                                             |
|                             | File number UL            | E174191                                                                          |

### Mechanical data

|                    |      |                                                                                                                                                      |
|--------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight             | [g]  | 26.3                                                                                                                                                 |
| Housing            |      | threaded type                                                                                                                                        |
| Mounting           |      | flush mountable                                                                                                                                      |
| Dimensions         | [mm] | M12 x 1 / L = 45                                                                                                                                     |
| Thread designation |      | M12 x 1                                                                                                                                              |
| Materials          |      | stainless steel (316L/1.4404) anti-spatter; sensing face: stainless steel (316L/1.4404) anti-spatter; LED window: PEI; lock nuts: brass anti-spatter |
| Tightening torque  | [Nm] | 6                                                                                                                                                    |
| Full-metal housing |      | yes                                                                                                                                                  |

### Displays / operating elements

|         |                  |                 |
|---------|------------------|-----------------|
| Display | switching status | 4 x LED, yellow |
|         | operation        | 1 x LED, green  |

### Accessories

|                |  |              |
|----------------|--|--------------|
| Items supplied |  | lock nuts: 2 |
|----------------|--|--------------|

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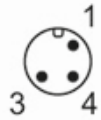
IFB3004BBPKG/AM/SC/V4A/US-104

### Remarks

Pack quantity 1 pcs.

### Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection

