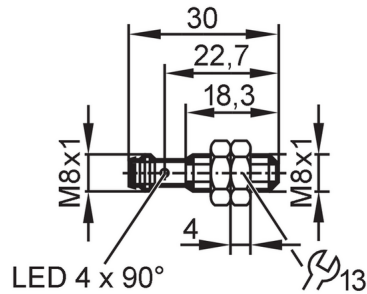


# IES215



## Inductive sensor

IEB3003BBPKG/V4A/AS



### Product characteristics

|                   |      |                 |
|-------------------|------|-----------------|
| Electrical design |      | PNP             |
| Output function   |      | normally open   |
| Sensing range     | [mm] | 3               |
| Housing           |      | threaded type   |
| Dimensions        | [mm] | M8 x 1 / L = 30 |

### Application

|                 |  |   |
|-----------------|--|---|
| Special feature |  | Gold-plated contacts; Increased sensing range   |
| Application     |  | Suitable for industrial, mobile, cooling and lubricating applications; Industrial applications / factory automation |

### Electrical data

|                             |      |            |
|-----------------------------|------|------------|
| Operating voltage           | [V]  | 10...30 DC |
| Current consumption         | [mA] | < 20       |
| 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] | 1500          |
| Short-circuit protection                        |      | yes           |
| Overload protection                             |      | yes           |

### Detection zone

|                         |      |          |
|-------------------------|------|----------|
| Sensing range           | [mm] | 3        |
| Real sensing range Sr   | [mm] | 3 ± 10 % |
| Operating distance      | [mm] | 0...2.43 |
| Increased sensing range |      | yes      |

### Accuracy / deviations

|                    |           |   |
|--------------------|-----------|---|
| Correction factor  |           | steel: 1 / stainless steel: 0.7 / brass: 0.4 / aluminium: 0.4 / copper: 0.3 |
| Hysteresis         | [% of Sr] | 1...15  |
| Switch point drift | [% of Sr] | -10...10  |

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| Operating conditions                                |                           |   |
|---|---------------------------|---|
| Ambient temperature                                 | [°C]                      | -40...85  |
| Protection  |                           | IP 65; IP 66; IP 67; IP 68; IP 69K; (with ifm socket duly screwed on)   |
| 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   |
| 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]                   | 1465  |
| Embedded software included                          |                           | yes   |
| UL approval   | Ta                        | -25...80 °C   |
|   | Enclosure type            | Type 1  |
|   | power supply              | Limited Voltage/Current   |
|   | UL approval no.           | A017  |
|   | File number UL            | E174191   |
| Mechanical data                                     |                           |   |
| Weight  | [g]                       | 13.2  |
| Housing   |                           | threaded type   |
| Mounting  |                           | flush mountable   |
| Dimensions  | [mm]                      | M8 x 1 / L = 30   |
| Thread designation                                  |                           | M8 x 1  |
| Materials   |                           | stainless steel (316L/1.4404); sensing face: LCP white; LED window: PEI; lock nuts: stainless steel (316L/1.4404) |
| Tightening torque                                   | [Nm]                      | A = 5 mm: 2 Nm; B: 5 Nm   |
| Displays / operating elements                       |                           |   |
| Display   | switching status          | 4 x 90° LED, yellow   |
| Accessories   |                           |   |
| Items supplied                                      |                           | lock nuts: 2  |
| Remarks   |                           |   |
| Pack quantity                                       |                           | 1 pcs.  |
| Electrical connection - plug                        |                           |   |
| Connector: 1 x M8; coding: A; Contacts: gold-plated |                           |   |
|   |                           |   |

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### Connection



### Diagrams and graphs

#### Installation

