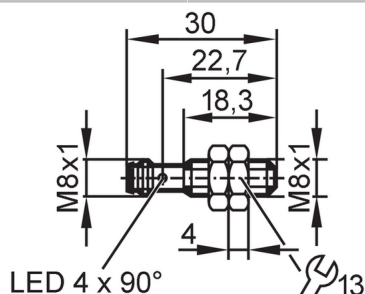


# IES215



## 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 |

### 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           |

### Monitoring range

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

### Accuracy / deviations

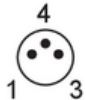
|                              |                                                                            |
|------------------------------|----------------------------------------------------------------------------|
| Correction factor            | steel: 1 / stainless steel: 0.7 / brass: 0.4 / aluminum: 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 per frequency; 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 changes                                                            | 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                                                                             |
|                                                                                     | voltage supply                                                                                                        | Limited Voltage/Current                                                            |
|                                                                                     | UL approval number                                                                                                    | 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                                                                                                                |                                                                                    |
| Material                                                                            | stainless steel (1.4404 / 316L); sensing face: LCP white; LED window: PEI; lock nuts: stainless steel (1.4404 / 316L) |                                                                                    |
| 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: 3, gold-plated                              |                                                                                                                       |                                                                                    |
|  |                                                                                                                       |                                                                                    |

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### Connection



### Diagrams and graphs

#### Installation

