



## Inductive sensor

IEB3003BBPKG/V4A/K1/AS



### Product characteristics

|                    |                 |
|--------------------|-----------------|
| Electrical design  | PNP             |
| Output function    | normally open   |
| Sensing range [mm] | 3               |
| Housing            | threaded type   |
| Dimensions [mm]    | M8 x 1 / L = 40 |

### Application

|                                   |                                                                                                  |
|-----------------------------------|--------------------------------------------------------------------------------------------------|
| Special feature                   | Gold-plated contacts; Increased sensing range;<br>Correction factor K = 1; Magnetic-field immune |
| Application                       | material handling; refrigerated warehouse / shock freezing                                       |
| Magnetic-field immune             | yes                                                                                              |
| Max. magnetic field immunity [mT] | 300                                                                                              |

### 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]                          | 2000          |
| 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      |



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| Accuracy / deviations         |                                                                                                                       |                                                                                  |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Correction factor             | steel: 1 / stainless steel: 1 / brass: 1 / aluminium: 1 / copper: 1                                                   |                                                                                  |
| Hysteresis [% of Sr]          | 3...15                                                                                                                |                                                                                  |
| Switch point drift [% of Sr]  | -10...10                                                                                                              |                                                                                  |
| Correction factor K = 1       | yes                                                                                                                   |                                                                                  |
| 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]                  | 561                                                                                                                   |                                                                                  |
| Embedded software included    | yes                                                                                                                   |                                                                                  |
| UL approval                   | Ta                                                                                                                    | -25...80 °C                                                                      |
|                               | Enclosure type                                                                                                        | Type 1                                                                           |
|                               | power supply                                                                                                          | Limited Voltage/Current                                                          |
|                               | UL Approval no.                                                                                                       | A011                                                                             |
|                               | File number UL                                                                                                        | E174191                                                                          |
| Mechanical data               |                                                                                                                       |                                                                                  |
| Weight [g]                    | 14.4                                                                                                                  |                                                                                  |
| Housing                       | threaded type                                                                                                         |                                                                                  |
| Mounting                      | flush mountable                                                                                                       |                                                                                  |
| Dimensions [mm]               | M8 x 1 / L = 40                                                                                                       |                                                                                  |
| Thread designation            | M8 x 1                                                                                                                |                                                                                  |
| Materials                     | stainless steel (1.4404 / 316L); sensing face: LCP white; LED window: PEI; lock nuts: stainless steel (1.4404 / 316L) |                                                                                  |
| Tightening torque [Nm]        | A = 6 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.                                                                                                                |                                                                                  |

# IES200



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### Electrical connection - plug

Connector: 1 x M8; coding: A; Contacts: gold-plated



### Connection



### Diagrams and graphs

#### Installation

