

# IE5312



## Inductive sensor

IEK3002BBPKG/US-104



### Product characteristics

|                    |                 |
|--------------------|-----------------|
| Electrical design  | PNP             |
| Output function    | normally open   |
| Sensing range [mm] | 2               |
| Housing            | Threaded type   |
| Dimensions [mm]    | M8 x 1 / L = 60 |

### Application

|        |                         |
|--------|-------------------------|
| System | Increased sensing range |
|--------|-------------------------|

### 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]                          | 1000          |
| Short-circuit protection                             | yes           |
| Overload protection                                  | yes           |

### Monitoring range

|                            |          |
|----------------------------|----------|
| Sensing range [mm]         | 2        |
| Real sensing range Sr [mm] | 2 ± 10 % |
| Operating distance [mm]    | 0...1.62 |
| Increased sensing range    | yes      |

### Accuracy / deviations

|                              |                                                                            |
|------------------------------|----------------------------------------------------------------------------|
| Correction factor            | steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminum: 0.4 / copper: 0.3 |
| Hysteresis [% of Sr]         | 1...20                                                                     |
| Switch-point drift [% of Sr] | -10...10                                                                   |

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| Operating conditions                                                                |                           |                                                                                                               |
|-------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------|
| Ambient temperature                                                                 | [°C]                      | -25...70                                                                                                      |
| Protection                                                                          |                           | IP 67                                                                                                         |
| Tests / approvals                                                                   |                           |                                                                                                               |
| EMC                                                                                 | EN 61000-4-2 ESD          | 4 kV CD / 8 kV AD                                                                                             |
|                                                                                     | EN 61000-4-3 HF radiated  | 3 V/m                                                                                                         |
|                                                                                     | EN 61000-4-4 Burst        | 2 kV                                                                                                          |
|                                                                                     | EN 61000-4-6 HF conducted | 3 V                                                                                                           |
|                                                                                     | EN 55011                  | class B                                                                                                       |
| MTTF                                                                                | [years]                   | 1379                                                                                                          |
| Embedded software included                                                          |                           | yes                                                                                                           |
| Mechanical data                                                                     |                           |                                                                                                               |
| Weight                                                                              | [g]                       | 23.1                                                                                                          |
| Housing                                                                             |                           | Threaded type                                                                                                 |
| Mounting                                                                            |                           | flush mountable                                                                                               |
| Dimensions                                                                          | [mm]                      | M8 x 1 / L = 60                                                                                               |
| Thread designation                                                                  |                           | M8 x 1                                                                                                        |
| Material                                                                            |                           | brass white bronze coated; sensing face: LCP orange;<br>LED window: PEI; lock nuts: brass white bronze coated |
| Tightening torque                                                                   | [Nm]                      | A = 5 mm: 1,5 Nm; B: 2 Nm                                                                                     |
| Full-metal housing                                                                  |                           | no                                                                                                            |
| 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 M12; coding: A                                                       |                           |                                                                                                               |
|  |                           |                                                                                                               |

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### Connection



### Diagrams and graphs

#### Installation

