



## Inductive sensor

IFK3004BBPKG/US-104



### Product characteristics

|                    |                  |
|--------------------|------------------|
| Electrical design  | PNP              |
| Output function    | normally open    |
| Sensing range [mm] | 4                |
| Housing            | threaded type    |
| Dimensions [mm]    | M12 x 1 / L = 60 |

### Application

|                 |                                               |
|-----------------|-----------------------------------------------|
| Special feature | Gold-plated contacts; Increased sensing range |
| Application     | Use in machine tools, coolants and lubricants |

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...30 DC |
| Current consumption [mA]    | < 10       |
| Protection class            | II         |
| 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] | 200           |
| Switching frequency DC [Hz]                          | 700           |
| Short-circuit protection                             | yes           |
| Overload protection                                  | yes           |

### Detection zone

|                         |          |
|-------------------------|----------|
| Sensing range [mm]      | 4        |
| Operating distance [mm] | 0...3.24 |
| Increased sensing range | yes      |

### Accuracy / deviations

|                              |                                                                             |
|------------------------------|-----------------------------------------------------------------------------|
| Correction factor            | steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminium: 0.4 / copper: 0.3 |
| Hysteresis [% of Sr]         | 3...15                                                                      |
| Switch point drift [% of Sr] | -10...10                                                                    |

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| Operating conditions                                                                |                           |                                                                                                              |
|-------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------|
| Ambient temperature                                                                 | [°C]                      | -25...70                                                                                                     |
| Protection                                                                          |                           | IP 68; ("Coolant")                                                                                           |
| 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                                                                                                      |
| MTTF                                                                                | [years]                   | 1528                                                                                                         |
| Embedded software included                                                          |                           | yes                                                                                                          |
| UL approval                                                                         | Ta                        | 0...40 °C                                                                                                    |
|                                                                                     | Enclosure type            | Type 1                                                                                                       |
|                                                                                     | power supply              | Hazardous voltage                                                                                            |
|                                                                                     | UL Approval no.           | A004                                                                                                         |
|                                                                                     | File number UL            | E174191                                                                                                      |
| Mechanical data                                                                     |                           |                                                                                                              |
| Weight                                                                              | [g]                       | 27.5                                                                                                         |
| Housing                                                                             |                           | threaded type                                                                                                |
| Mounting                                                                            |                           | flush mountable                                                                                              |
| Dimensions                                                                          | [mm]                      | M12 x 1 / L = 60                                                                                             |
| Thread designation                                                                  |                           | M12 x 1                                                                                                      |
| Materials                                                                           |                           | brass white bronze coated; sensing face: LCP white;<br>LED window: PEI; lock nuts: brass white bronze coated |
| Displays / operating elements                                                       |                           |                                                                                                              |
| Display                                                                             | switching status          | 4 x LED, yellow                                                                                              |
| Accessories                                                                         |                           |                                                                                                              |
| Items supplied                                                                      |                           | lock nuts: 2                                                                                                 |
| Remarks                                                                             |                           |                                                                                                              |
| Pack quantity                                                                       |                           | 1 pcs.                                                                                                       |
| Electrical connection - plug                                                        |                           |                                                                                                              |
| Connector: 1 x M12; coding: A; Contacts: gold-plated                                |                           |                                                                                                              |
|  |                           |                                                                                                              |

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### Connection

