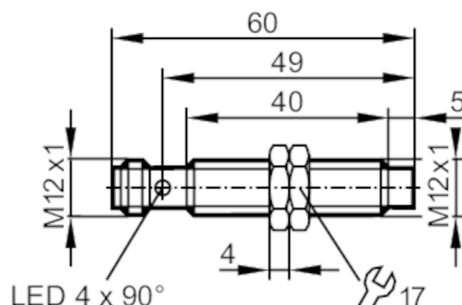


# IFS251



## Inductive sensor

IFK3007-BNKG/US-104



### Product characteristics

|                    |                  |
|--------------------|------------------|
| Electrical design  | NPN              |
| Output function    | normally closed  |
| Sensing range [mm] | 7                |
| Housing            | Threaded type    |
| Dimensions [mm]    | M12 x 1 / L = 60 |

### Application

|             |                                                                                                |
|-------------|------------------------------------------------------------------------------------------------|
| System      | 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]    | < 10       |
| Protection class            | III        |
| Reverse polarity protection | yes        |

### Outputs

|                                                      |                 |
|------------------------------------------------------|-----------------|
| Electrical design                                    | NPN             |
| Output function                                      | normally closed |
| Max. voltage drop switching output DC [V]            | 2.5             |
| Permanent current rating of switching output DC [mA] | 100             |
| Switching frequency DC [Hz]                          | 700             |
| Short-circuit protection                             | yes             |
| Overload protection                                  | yes             |

### Monitoring range

|                            |               |
|----------------------------|---------------|
| Sensing range [mm]         | 7             |
| Real sensing range Sr [mm] | $7 \pm 10 \%$ |
| Operating distance [mm]    | 0...5.67      |
| 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] | 3...15                                                                     |

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|                               |                           |                                                                                                            |
|-------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------|
| Switch-point drift            | [% of Sr]                 | -10...10                                                                                                   |
| Operating conditions          |                           |                                                                                                            |
| Ambient temperature           | [°C]                      | -40...85                                                                                                   |
| Protection                    |                           | IP 65; IP 66; IP 67; IP 68; IP 69K                                                                         |
| 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]                   | 1594                                                                                                       |
| Embedded software included    |                           | yes                                                                                                        |
| UL approval                   | Ta                        | -25...70 °C                                                                                                |
|                               | Enclosure type            | Type 1                                                                                                     |
|                               | voltage supply            | Limited Voltage/Current                                                                                    |
|                               | UL approval number        | A001                                                                                                       |
|                               | File number UL            | E174191                                                                                                    |
| Mechanical data               |                           |                                                                                                            |
| Weight                        | [g]                       | 27.4                                                                                                       |
| Housing                       |                           | Threaded type                                                                                              |
| Mounting                      |                           | non-flush mountable                                                                                        |
| Dimensions                    | [mm]                      | M12 x 1 / L = 60                                                                                           |
| Thread designation            |                           | M12 x 1                                                                                                    |
| Material                      |                           | brass white bronze coated; sensing face: PBT orange; 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.                                                                                                     |

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### Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection

