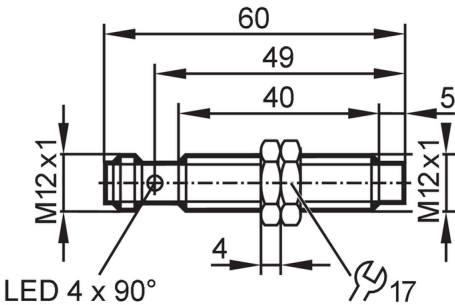


# IFS241



## Inductive sensor

IFK3007-BPKG/US-104



### Product characteristics

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

### 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]    | < 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]                          | 700           |
| Short-circuit protection                             | yes           |
| Overload protection                                  | yes           |

### Monitoring range

|                            |          |
|----------------------------|----------|
| Sensing range [mm]         | 7        |
| Real sensing range Sr [mm] | 7 ± 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                                                                     |
| 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                                                                                  |
| 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]                   | 1134                                                                                                                |
| Embedded software included                              |                           | no                                                                                                                  |
| 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]                       | 27.5                                                                                                                |
| Housing                                                 |                           | Threaded type                                                                                                       |
| Mounting                                                |                           | non-flush mountable                                                                                                 |
| Dimensions                                              | [mm]                      | M12 x 1 / L = 60                                                                                                    |
| Thread designation                                      |                           | M12 x 1                                                                                                             |
| Material                                                |                           | housing: 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.                                                                                                              |
| Electrical connection - plug                            |                           |                                                                                                                     |
| Connector: 1 x M12; coding: A; Contacts: 3, gold-plated |                           |                                                                                                                     |
|                                                         |                           |                                                                                                                     |

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### Connection

