

# 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 / factory automation |

### 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           |

### Detection zone

|                               |               |
|-------------------------------|---------------|
| Sensing range [mm]            | 7             |
| Real sensing range $S_r$ [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 / aluminium: 0.4 / copper: 0.3 |
|-------------------|-----------------------------------------------------------------------------|

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|                    |           |          |
|--------------------|-----------|----------|
| Hysteresis         | [% of Sr] | 3...15   |
| 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, 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]                   | 1690                                                                             |
| Embedded software included  |                           | yes                                                                              |
| UL approval                 | Ta                        | -25...70 °C                                                                      |
|                             | Enclosure type            | Type 1                                                                           |
|                             | power supply              | Limited Voltage/Current                                                          |
|                             | UL Approval no.           | 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                                                                                                    |
| Materials          |      | 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

