

# IFS281



## Inductive sensor

IFK3004BBNKG/2M/PUR



1 LED yellow



### 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             |

### Detection zone

|                          |      |              |
|--------------------------|------|--------------|
| Sensing range            | [mm] | 4            |
| Real sensing range $S_r$ | [mm] | $4 \pm 10\%$ |
| 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 $S_r$ ] | 3...15                                                                      |
| Switch point drift | [% of $S_r$ ] | -10...10                                                                    |

### Operating conditions

|                     |      |                                    |
|---------------------|------|------------------------------------|
| Ambient temperature | [°C] | -40...85                           |
| Protection          |      | IP 65; IP 66; IP 67; IP 68; IP 69K |

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| 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 60068-2-29 Eb          | 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]                   | 808                                                                                                        |
| UL approval                   | Ta                        | -25...75 °C                                                                                                |
|                               | Enclosure type            | Type 1                                                                                                     |
|                               | voltage supply            | Limited Voltage/Current                                                                                    |
|                               | UL Approval no.           | A002                                                                                                       |
|                               | File number UL            | E174191                                                                                                    |
| Mechanical data               |                           |                                                                                                            |
| Weight                        | [g]                       | 77.6                                                                                                       |
| 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: PBT orange; LED window: PEI; lock nuts: brass white bronze coated |
| Displays / operating elements |                           |                                                                                                            |
| Display                       | switching status          | 1 x LED, yellow                                                                                            |
| Accessories                   |                           |                                                                                                            |
| Accessories (supplied)        |                           | lock nuts: 2                                                                                               |
| Remarks                       |                           |                                                                                                            |
| Pack quantity                 |                           | 1 pcs.                                                                                                     |

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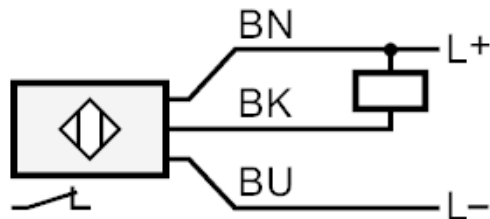
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### Electrical connection

Cable: 2 m, PUR, Ø 4 mm; burning behaviour to ECE R118 rev. 2; 3 x 0.34 mm<sup>2</sup>

### Connection



Core colours :

|      |       |
|------|-------|
| BK = | black |
| BN = | brown |
| BU = | blue  |