



Inductive sensor

IGK3012-BPKG/US-104



| Product characteristics                         |      |                                                                                                                     |
|-------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------|
| Electrical design                               |      | PNP                                                                                                                 |
| Output function                                 |      | normally open                                                                                                       |
| Sensing range                                   | [mm] | 12                                                                                                                  |
| Housing                                         |      | threaded type                                                                                                       |
| Dimensions                                      | [mm] | M18 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] | 300                                                                                                                 |
| Short-circuit protection                        |      | yes                                                                                                                 |
| Overload protection                             |      | yes                                                                                                                 |
| Detection zone                                  |      |                                                                                                                     |
| Sensing range                                   | [mm] | 12                                                                                                                  |
| Real sensing range Sr                           | [mm] | 12 ± 10 %                                                                                                           |
| Operating distance                              | [mm] | 0...9.72                                                                                                            |
| 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]                   | 1134                                                                             |
| Embedded software included  |                           | no                                                                               |
| 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]  | 50                                                                                                                     |
| Housing            |      | threaded type                                                                                                          |
| Mounting           |      | non-flush mountable                                                                                                    |
| Dimensions         | [mm] | M18 x 1 / L = 60                                                                                                       |
| Thread designation |      | M18 x 1                                                                                                                |
| Materials          |      | housing: brass white bronze coated; sensing face: PBT orange;<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. |
|---------------|--------|

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### Electrical connection - plug

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



### Connection

