



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                                     |           |                                                                                                |
| 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                               |           | 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                                                                                            |
| Monitoring range                                |           |                                                                                                |
| 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 / aluminum: 0.4 / copper: 0.3                     |
| Hysteresis                                      | [% of Sr] | 3...15                                                                                         |



## Inductive sensor

IGK3012-BPKG/US-104

|                                      |                           |                                                                                                                        |
|--------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------|
| Switch-point drift                   | [% of Sr]                 | -10...10                                                                                                               |
| <b>Operating conditions</b>          |                           |                                                                                                                        |
| Ambient temperature                  | [°C]                      | -40...85                                                                                                               |
| Protection                           |                           | IP 65; IP 66; IP 67; IP 68; IP 69K                                                                                     |
| <b>Tests / approvals</b>             |                           |                                                                                                                        |
| 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                                                                                                                |
| <b>Mechanical data</b>               |                           |                                                                                                                        |
| Weight                               | [g]                       | 50                                                                                                                     |
| Housing                              |                           | Threaded type                                                                                                          |
| Mounting                             |                           | non-flush mountable                                                                                                    |
| Dimensions                           | [mm]                      | M18 x 1 / L = 60                                                                                                       |
| Thread designation                   |                           | M18 x 1                                                                                                                |
| Material                             |                           | housing: brass white bronze coated; sensing face: PBT orange;<br>LED window: PEI; lock nuts: brass white bronze coated |
| <b>Displays / operating elements</b> |                           |                                                                                                                        |
| Display                              | Switching status          | 4 x LED, yellow                                                                                                        |
| <b>Accessories</b>                   |                           |                                                                                                                        |
| Items supplied                       |                           | lock nuts: 2                                                                                                           |
| <b>Remarks</b>                       |                           |                                                                                                                        |
| Pack quantity                        |                           | 1 pcs.                                                                                                                 |



## Inductive sensor

IGK3012-BPKG/US-104

### Electrical connection - plug

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



### Connection

