



## Inductive sensor

IIK3015BBNKG/US-104



## Product characteristics

|                    |                    |
|--------------------|--------------------|
| Electrical design  | NPN                |
| Output function    | normally closed    |
| Sensing range [mm] | 15                 |
| Housing            | Threaded type      |
| Dimensions [mm]    | M30 x 1.5 / 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                                    | 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]                          | 100             |
| Short-circuit protection                             | yes             |
| Overload protection                                  | yes             |

## Monitoring range

|                            |           |
|----------------------------|-----------|
| Sensing range [mm]         | 15        |
| Real sensing range Sr [mm] | 15 ± 10 % |
| Operating distance [mm]    | 0...12.15 |
| Increased sensing range    | yes       |



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| 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                                                                   |                                                                                    |
| 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]                                                                                                    | 1594                                                                       |                                                                                    |
| Embedded software included    |                                                                                                            | yes                                                                        |                                                                                    |
| 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]                                                                                                        | 114.8                                                                      |                                                                                    |
| Housing                       | Threaded type                                                                                              |                                                                            |                                                                                    |
| Mounting                      | flush mountable                                                                                            |                                                                            |                                                                                    |
| Dimensions                    | [mm]                                                                                                       | M30 x 1.5 / L = 60                                                         |                                                                                    |
| Thread designation            | M30 x 1.5                                                                                                  |                                                                            |                                                                                    |
| Material                      | 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.                                                                                                     |                                                                            |                                                                                    |

# IIS235



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### Electrical connection - plug

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



### Connection

