



## Inductive full-metal sensor

IIB3015BBPKG/AM/V4A/US-104



## Product characteristics

|                    |                    |
|--------------------|--------------------|
| Electrical design  | PNP                |
| Output function    | normally open      |
| Sensing range [mm] | 15                 |
| Housing            | Threaded type      |
| Dimensions [mm]    | M30 x 1.5 / L = 50 |

## Application

|                         |                                                                               |
|-------------------------|-------------------------------------------------------------------------------|
| System                  | gold-plated contacts; Increased sensing range; Full-metal housing             |
| Application             | constant cleaning with aggressive cleaning agents; regular cleaning processes |
| Pressure rating         | 100 bar 10 MPa                                                                |
| Note on pressure rating | sensing face                                                                  |

## 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]                          | 50            |
| Short-circuit protection                             | yes           |
| Overload protection                                  | yes           |

## Monitoring range

|                               |                |
|-------------------------------|----------------|
| Sensing range [mm]            | 15             |
| Real sensing range $S_r$ [mm] | $15 \pm 10 \%$ |
| Operating distance [mm]       | 0...12.15      |



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|                               |                                                                                                                                             |                                                                                    |                   |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------|
| Increased sensing range       |                                                                                                                                             | yes                                                                                |                   |
| Accuracy / deviations         |                                                                                                                                             |                                                                                    |                   |
| Correction factor             |                                                                                                                                             | steel: 1 / stainless steel: 0.7 / brass: 0.6 / aluminum: 0.5 / copper: 0.2         |                   |
| Hysteresis [% of Sr]          |                                                                                                                                             | 3...15                                                                             |                   |
| Switch-point drift [% of Sr]  |                                                                                                                                             | -10...10                                                                           |                   |
| Operating conditions          |                                                                                                                                             |                                                                                    |                   |
| Ambient temperature [°C]      |                                                                                                                                             | 0...100                                                                            |                   |
| 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           |
| Impact resistance             |                                                                                                                                             |                                                                                    | 1 J               |
| 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 Nc                                                                                                                            | \$TA_0GradC_TB_100GradC_t1_30_min_t2_10_s_50                                       |                   |
| MTTF [years]                  | 1244                                                                                                                                        |                                                                                    |                   |
| Embedded software included    | yes                                                                                                                                         |                                                                                    |                   |
| UL approval                   | Ta                                                                                                                                          | 0...70 °C                                                                          |                   |
|                               | Enclosure type                                                                                                                              | Type 1                                                                             |                   |
|                               | voltage supply                                                                                                                              | Limited Voltage/Current                                                            |                   |
|                               | UL approval number                                                                                                                          | A012                                                                               |                   |
|                               | File number UL                                                                                                                              | E174191                                                                            |                   |
| Mechanical data               |                                                                                                                                             |                                                                                    |                   |
| Weight [g]                    | 113.2                                                                                                                                       |                                                                                    |                   |
| Housing                       | Threaded type                                                                                                                               |                                                                                    |                   |
| Mounting                      | flush mountable                                                                                                                             |                                                                                    |                   |
| Dimensions [mm]               | M30 x 1.5 / L = 50                                                                                                                          |                                                                                    |                   |
| Thread designation            | M30 x 1.5                                                                                                                                   |                                                                                    |                   |
| Material                      | stainless steel (1.4404 / 316L); sensing face: stainless steel (1.4404 / 316L); LED window: PEI; lock nuts: stainless steel (1.4404 / 316L) |                                                                                    |                   |
| Tightening torque [Nm]        | 80                                                                                                                                          |                                                                                    |                   |
| Full-metal housing            | yes                                                                                                                                         |                                                                                    |                   |
| Displays / operating elements |                                                                                                                                             |                                                                                    |                   |
| Display                       | Switching status                                                                                                                            | 4 x LED, yellow                                                                    |                   |
| Accessories                   |                                                                                                                                             |                                                                                    |                   |
| Items supplied                | lock nuts: 2                                                                                                                                |                                                                                    |                   |
| Remarks                       |                                                                                                                                             |                                                                                    |                   |
| Pack quantity                 | 1 pcs.                                                                                                                                      |                                                                                    |                   |

# IIT243



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### Electrical connection - plug

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



### Connection

