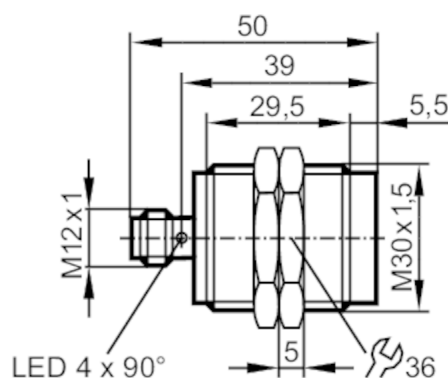


## Inductive full-metal sensor

IIB3018QBPKG/AM/P/US-104



## Product characteristics

|                   |      |                    |
|-------------------|------|--------------------|
| Electrical design |      | PNP                |
| Output function   |      | normally open      |
| Sensing range     | [mm] | 18                 |
| Dimensions        | [mm] | M30 x 1.5 / L = 50 |

## Application

|                         |       |                                                                               |
|-------------------------|-------|-------------------------------------------------------------------------------|
| Application             |       | constant cleaning with aggressive cleaning agents; regular cleaning processes |
| Pressure rating         | [bar] | 100                                                                           |
| Note on pressure rating |       | sensing face                                                                  |

## Electrical data

|                             |      |            |
|-----------------------------|------|------------|
| Operating voltage           | [V]  | 10...30 DC |
| Current consumption         | [mA] | < 20       |
| 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] | 100           |
| Short-circuit protection                        |      | yes           |
| Overload protection                             |      | yes           |

## Detection zone

|                       |      |           |
|-----------------------|------|-----------|
| Sensing range         | [mm] | 18        |
| Real sensing range Sr | [mm] | 18 ± 10 % |
| Operating distance    | [mm] | 0...14.58 |

## Accuracy / deviations

|                   |  |                                                                           |
|-------------------|--|---------------------------------------------------------------------------|
| Correction factor |  | steel: 1 / stainless steel: 1 / brass: 0.4 / aluminium: 0.3 / copper: 0.2 |
|-------------------|--|---------------------------------------------------------------------------|



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|                    |           |          |
|--------------------|-----------|----------|
| 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 emission         | class B                                                                          |
| Impact resistance           |                           | 1 J                                                                              |
| 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 Nc          | TA = 0°C; TB = 100°C; t1 = 30 min; t2 = < 10 s 50 cycles                         |
| MTTF                        | [years]                   | 1385                                                                             |
| Embedded software included  |                           | yes                                                                              |
| UL approval                 | Ta                        | 0...70 °C                                                                        |
|                             | Enclosure type            | Type 1                                                                           |
|                             | power supply              | Limited Voltage/Current                                                          |
|                             | UL Approval no.           | A012                                                                             |
|                             | File number UL            | E174191                                                                          |

## Mechanical data

|                    |      |                                                                                                                                                      |
|--------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight             | [g]  | 99.8                                                                                                                                                 |
| Mounting           |      | quasi flush                                                                                                                                          |
| Dimensions         | [mm] | M30 x 1.5 / L = 50                                                                                                                                   |
| Thread designation |      | M30 x 1.5                                                                                                                                            |
| Materials          |      | housing: 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                                                                                                                                                   |

## Displays / operating elements

|         |                  |                     |
|---------|------------------|---------------------|
| Display | switching status | 4 x 90° LED, yellow |
|---------|------------------|---------------------|

## Accessories

|                |  |              |
|----------------|--|--------------|
| Items supplied |  | lock nuts: 2 |
|----------------|--|--------------|

## Remarks

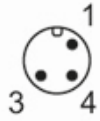
|               |  |        |
|---------------|--|--------|
| Pack quantity |  | 1 pcs. |
|---------------|--|--------|

## Inductive full-metal sensor

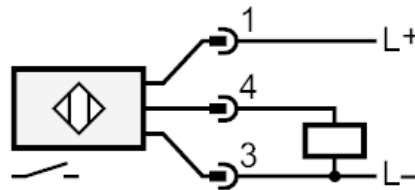
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### Electrical connection

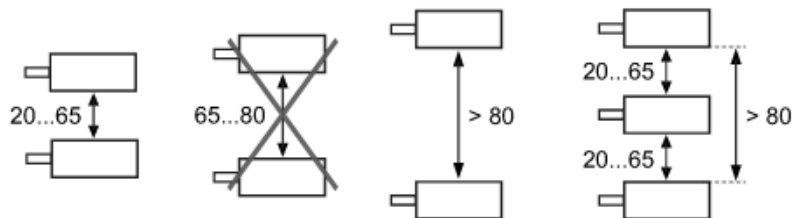
Connector: 1 x M12; coding: A



### Connection



### Diagrams and graphs



# IIT245

## Inductive full-metal sensor

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