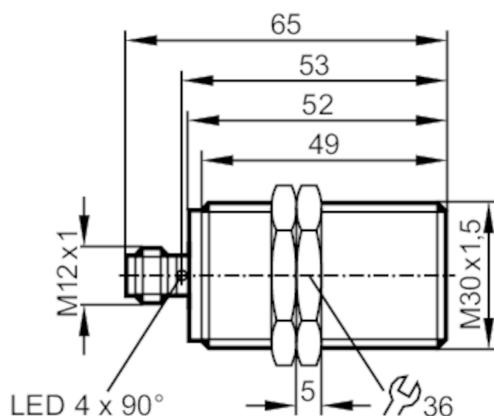


## Inductive sensor with IO-Link

IIK3012BFRKG/IO/US-104



## Electrical data

|                             |      |            |
|-----------------------------|------|------------|
| Operating voltage           | [V]  | 10...30 DC |
| Current consumption         | [mA] | 10         |
| Protection class            |      | III        |
| Reverse polarity protection |      | yes        |

## Outputs

|                                                 |      |                                               |
|-------------------------------------------------|------|-----------------------------------------------|
| Electrical design                               |      | PNP/NPN                                       |
| Output function                                 |      | normally open / normally closed; (selectable) |
| 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

|                 |      |          |
|-----------------|------|----------|
| Measuring range | [mm] | 1.3...13 |
|-----------------|------|----------|

## Accuracy / deviations

|                                    |           |                                                                             |
|------------------------------------|-----------|-----------------------------------------------------------------------------|
| Correction factor                  |           | steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminium: 0.5 / copper: 0.4 |
| Hysteresis                         | [% of Sr] | 3...15                                                                      |
| Linearity error of analogue output | [%]       | ± 2 %; (of the final value of the measuring range)                          |
| Repeatability analogue output      | [%]       | ± 1 %; (of the final value of the measuring range)                          |
| Temperature coefficient            |           | ± 0,3 %/K; (of the final value of the measuring range)                      |



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| Interfaces                  |                                                                                                                         |                                                                                    |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Communication interface     | IO-Link                                                                                                                 |                                                                                    |
| Transmission type           | COM2 (38,4 kBaud)                                                                                                       |                                                                                    |
| IO-Link revision            | 1.1                                                                                                                     |                                                                                    |
| SDCI standard               | IEC 61131-9 CDV                                                                                                         |                                                                                    |
| IO-Link device ID           | 791d / 000317h                                                                                                          |                                                                                    |
| Profiles                    | Smart Sensor: Device Identification; Device Diagnosis; Device Teach Channel; Binary Data Channel; Process Data Variable |                                                                                    |
| SIO mode                    | yes                                                                                                                     |                                                                                    |
| Required master port type   | A                                                                                                                       |                                                                                    |
| Min. process cycle time     | [ms]                                                                                                                    | 3                                                                                  |
| 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 60068-2-29 Eb                                                                                                        | 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                       |
| MTTF                        | [years]                                                                                                                 | 664                                                                                |
| UL approval                 | Ta                                                                                                                      | -25...70 °C                                                                        |
|                             | Enclosure type                                                                                                          | Type 1                                                                             |
|                             | voltage supply                                                                                                          | Limited Voltage/Current                                                            |
|                             | UL Approval no.                                                                                                         | A008                                                                               |
|                             | File number UL                                                                                                          | E174191                                                                            |
| Mechanical data             |                                                                                                                         |                                                                                    |
| Weight                      | [g]                                                                                                                     | 121.8                                                                              |
| Housing                     | threaded type                                                                                                           |                                                                                    |
| Mounting                    | flush mountable                                                                                                         |                                                                                    |
| Dimensions                  | [mm]                                                                                                                    | M30 x 1.5 / L = 65                                                                 |
| Thread designation          | M30 x 1.5                                                                                                               |                                                                                    |
| Materials                   | brass white bronze coated; sensing face: PBT orange; LED window: PEI; lock nuts: brass white bronze coated              |                                                                                    |

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Inductive sensor with IO-Link

IIK3012BFRKG/IO/US-104

| Displays / operating elements                                                      |                                    |                      |
|------------------------------------------------------------------------------------|------------------------------------|----------------------|
| Display                                                                            | switching status                   | 4 x LED, yellow      |
|                                                                                    | SIO mode                           |                      |
|                                                                                    | output stage supplied with current | LED, yellow lights   |
|                                                                                    | IO-Link mode                       |                      |
|                                                                                    | target in measuring range          | LED, yellow lights   |
|                                                                                    | target outside measuring range     | LED, yellow flashing |
| Accessories                                                                        |                                    |                      |
| Accessories (supplied)                                                             | lock nuts: 2                       |                      |
| Remarks                                                                            |                                    |                      |
| Pack quantity                                                                      | 1 pcs.                             |                      |
| Electrical connection - plug                                                       |                                    |                      |
| Connector: 1 x M12                                                                 |                                    |                      |
|  |                                    |                      |