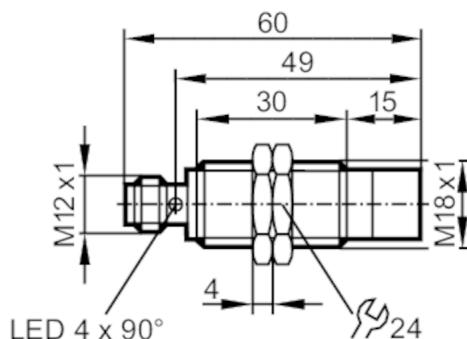


## Inductive sensor

IGK3008-FRKG/V4A/IO/US-104



### Product characteristics

|                         |                                                    |
|-------------------------|----------------------------------------------------|
| Electrical design       | PNP/NPN; (parameterisable)                         |
| Output function         | normally open / normally closed; (parameterisable) |
| Communication interface | IO-Link                                            |
| Housing                 | threaded type                                      |
| Dimensions [mm]         | M18 x 1 / L = 60                                   |

### Application

|                                   |                       |
|-----------------------------------|-----------------------|
| Special feature                   | Magnetic-field immune |
| Magnetic-field immune             | yes                   |
| Max. magnetic field immunity [mT] | 300                   |

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...30 DC |
| Current consumption [mA]    | < 20       |
| Protection class            | III        |
| Reverse polarity protection | yes        |

### Outputs

|                                                      |                                                    |
|------------------------------------------------------|----------------------------------------------------|
| Electrical design                                    | PNP/NPN; (parameterisable)                         |
| Output function                                      | normally open / normally closed; (parameterisable) |
| Max. voltage drop switching output DC [V]            | 2.5                                                |
| Permanent current rating of switching output DC [mA] | 100                                                |
| Switching frequency DC [Hz]                          | 75                                                 |
| Short-circuit protection                             | yes                                                |
| Overload protection                                  | yes                                                |

### Detection zone

|                              |            |
|------------------------------|------------|
| Switch point IO-Link [mm]    | 1.6...7.76 |
| Measuring range IO-Link [mm] | 0.8...8    |

### Accuracy / deviations

|                                                   |         |
|---------------------------------------------------|---------|
| Repeatability                                     | < 20 µm |
| Factory calibration (target: aluminium, 54x54 mm) |         |
| Resolution [µm]                                   | 10      |



## Inductive sensor

IGK3008-FRKG/V4A/IO/US-104

|                                                                        |                                                                                                                         |                                                                                  |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Temperature drift                                                      | ± 3,2 µm/K                                                                                                              |                                                                                  |
| Linearity deviation                                                    | ± 20 µm                                                                                                                 |                                                                                  |
| application calibration (1-point calibration; target: steel, 54x54 mm) |                                                                                                                         |                                                                                  |
| Resolution [µm]                                                        | 10                                                                                                                      |                                                                                  |
| Temperature drift                                                      | ± 4,8 µm/K                                                                                                              |                                                                                  |
| Linearity deviation                                                    | ± 100 µm                                                                                                                |                                                                                  |
| Application calibration (3-point calibration; target: steel, 36x36 mm) |                                                                                                                         |                                                                                  |
| Resolution [µm]                                                        | 10                                                                                                                      |                                                                                  |
| Temperature drift                                                      | ± 4,8 µm/K                                                                                                              |                                                                                  |
| Linearity deviation                                                    | ± 50 µm                                                                                                                 |                                                                                  |
| Interfaces                                                             |                                                                                                                         |                                                                                  |
| Communication interface                                                | IO-Link                                                                                                                 |                                                                                  |
| Transmission type                                                      | COM2 (38,4 kBaud)                                                                                                       |                                                                                  |
| IO-Link revision                                                       | 1.1                                                                                                                     |                                                                                  |
| SDCI standard                                                          | IEC 61131-9 CDV                                                                                                         |                                                                                  |
| 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]                                           | 3.2                                                                                                                     |                                                                                  |
| Supported DeviceIDs                                                    | Type of operation                                                                                                       | DeviceID                                                                         |
|                                                                        | default                                                                                                                 | 1707                                                                             |
| Operating conditions                                                   |                                                                                                                         |                                                                                  |
| Ambient temperature [°C]                                               | -25...70                                                                                                                |                                                                                  |
| 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, 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 Eb                                                                                                        | 40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes          |
| Fast temperature change                                                | EN 60068-2-14 Na                                                                                                        | TA = -25 °C; TB = 70 °C; t1 = 30 min; t2 = < 10 s; 50 cycles                     |
| MTTF [years]                                                           | 1341                                                                                                                    |                                                                                  |
| Embedded software included                                             | yes                                                                                                                     |                                                                                  |
| UL approval                                                            | Ta                                                                                                                      | -25...70 °C                                                                      |
|                                                                        | Enclosure type                                                                                                          | Type 1                                                                           |
|                                                                        | power supply                                                                                                            | Limited Voltage/Current                                                          |
|                                                                        | UL Approval no.                                                                                                         | A005                                                                             |
|                                                                        | File number UL                                                                                                          | E174191                                                                          |

# IGP201



## Inductive sensor

IGK3008-FRKG/V4A/IO/US-104

| Mechanical data    |      |                                                                                                                               |
|--------------------|------|-------------------------------------------------------------------------------------------------------------------------------|
| Weight             | [g]  | 69.6                                                                                                                          |
| Housing            |      | threaded type                                                                                                                 |
| Mounting           |      | flush mountable                                                                                                               |
| Dimensions         | [mm] | M18 x 1 / L = 60                                                                                                              |
| Thread designation |      | M18 x 1                                                                                                                       |
| Materials          |      | housing: stainless steel (316L/1.4404); sensing face: LCP white;<br>LED window: PEI; lock nuts: stainless steel (316L/1.4404) |
| Tightening torque  | [Nm] | 7                                                                                                                             |

| 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 |

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

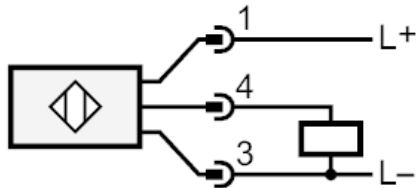
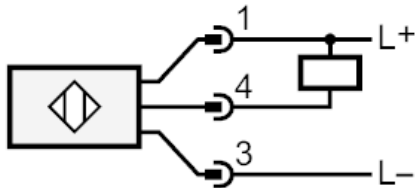
| Remarks       |        |
|---------------|--------|
| Pack quantity | 1 pcs. |

### Electrical connection - plug

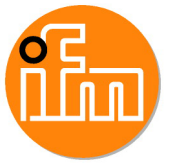
Connector: 1 x M12; coding: A



### Connection



4: OUT / IO-Link

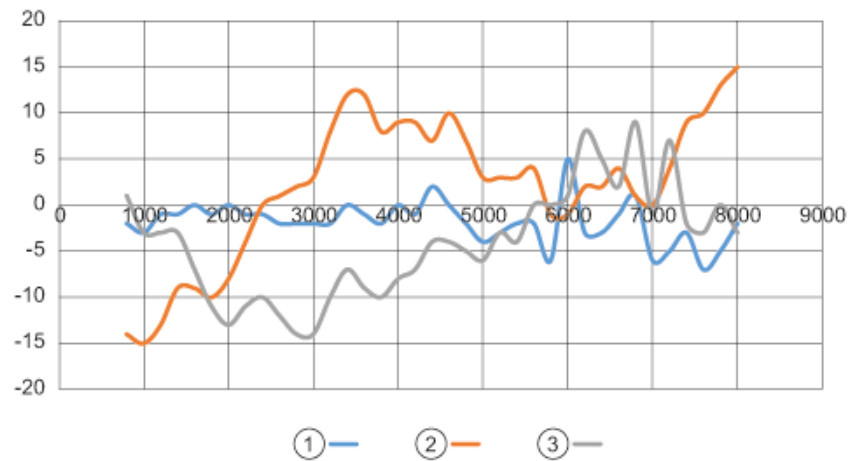


## Inductive sensor

IGK3008-FRKG/V4A/IO/US-104

### Diagrams and graphs

#### Linearity deviation



x measured value [ $\mu\text{m}$ ]

y Linearity deviation [ $\mu\text{m}$ ]

1 Factory calibration (target: aluminium, 54x54 mm)

2 application calibration (1-point calibration; target: steel, 54x54 mm)

3 Application calibration (3-point calibration; target: steel, 36x36 mm)