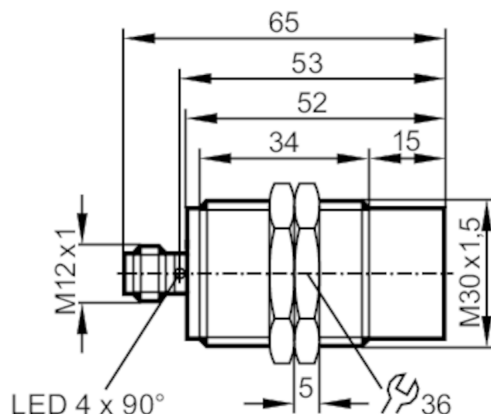


## Inductive analogue sensor with IO-Link

IIK4015A2PKG/IO/US



## Product characteristics

|                         |                                                    |
|-------------------------|----------------------------------------------------|
| Electrical design       | PNP/NPN; (parameterisable)                         |
| Output function         | normally open / normally closed; (parameterisable) |
| Communication interface | IO-Link                                            |
| Housing                 | threaded type                                      |
| Dimensions [mm]         | M30 x 1.5 / L = 65                                 |

## Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 15...30 DC |
| Current consumption [mA]    | < 30       |
| Protection class            | II         |
| 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]                          | 300                                                                                                            |
| Analogue voltage output [V]                          | 0...10; (linear; gradient: 0,714 V/mm; for frontal approach and for target made of mild steel: 45 x 45 x 1 mm) |
| Min. load resistance [Ω]                             | 2000                                                                                                           |
| Short-circuit protection                             | yes                                                                                                            |
| Overload protection                                  | yes                                                                                                            |

## Detection zone

|                           |              |
|---------------------------|--------------|
| Measuring range [mm]      | 1...15       |
| Switch point IO-Link [mm] | 2.37...13.99 |

## Accuracy / deviations

|                   |                                                                             |
|-------------------|-----------------------------------------------------------------------------|
| Correction factor | steel: 1 / stainless steel: 0.7 / brass: 0.4 / aluminium: 0.4 / copper: 0.3 |
| Hysteresis [X01]  | 3...15                                                                      |



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|                                        |                                                                                                                            |                                                                                                                                         |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Note on hysteresis                     |                                                                                                                            | parameterisable                                                                                                                         |
| Linearity error of analogue output [%] |                                                                                                                            | ± 1; (of the final value of the measuring range)                                                                                        |
| Repeatability analogue output [%]      |                                                                                                                            | ± 1; (of the final value of the measuring range)                                                                                        |
| Temperature coefficient [%/K vom MEW]  |                                                                                                                            | ±0,15                                                                                                                                   |
| Temperature drift                      |                                                                                                                            | ± 5 %; (of the final value of the measuring range)                                                                                      |
| Response times                         |                                                                                                                            |                                                                                                                                         |
| Response time [ms]                     |                                                                                                                            | < 10                                                                                                                                    |
| Interfaces                             |                                                                                                                            |                                                                                                                                         |
| Communication interface                |                                                                                                                            | IO-Link                                                                                                                                 |
| Transmission type                      |                                                                                                                            | COM2 (38,4 kBaud)                                                                                                                       |
| IO-Link revision                       |                                                                                                                            | 1.1                                                                                                                                     |
| SDCI standard                          |                                                                                                                            | IEC 61131-9                                                                                                                             |
| Profiles                               |                                                                                                                            | Smart Sensor: Identification and diagnosis; Multi-channel, two setpoint switching sensor, type 0 Generic Profiled Sensor; Teach Channel |
| SIO mode                               |                                                                                                                            | yes                                                                                                                                     |
| Required master port type              |                                                                                                                            | A                                                                                                                                       |
| Min. process cycle time [ms]           |                                                                                                                            | 3.2                                                                                                                                     |
| IO-Link process data (cyclical)        | function                                                                                                                   | bit length                                                                                                                              |
|                                        | process value                                                                                                              | 16                                                                                                                                      |
|                                        | device status                                                                                                              | 4                                                                                                                                       |
|                                        | binary switching information                                                                                               | 2                                                                                                                                       |
| IO-Link functions (acyclical)          | switching cycles counter; switch-on cycle counter; operating hours counter; internal temperature; application specific tag |                                                                                                                                         |
| Supported DeviceIDs                    | Type of operation                                                                                                          | DeviceID                                                                                                                                |
|                                        | default                                                                                                                    | 1206                                                                                                                                    |
| Note                                   | For further information please see the IODD PDF file under "Downloads"                                                     |                                                                                                                                         |
| Operating conditions                   |                                                                                                                            |                                                                                                                                         |
| Ambient temperature [°C]               |                                                                                                                            | -25...80                                                                                                                                |
| 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                                                                                                              | 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 = 80°C; t1 = 30 min; t2 = < 10 s 50 cycles                                                                               |
| MTTF [ANN]                             |                                                                                                                            | 222                                                                                                                                     |
| Embedded software included             |                                                                                                                            | yes                                                                                                                                     |



## Inductive analogue sensor with IO-Link

IIK4015A2PKG/IO/US

|             |                 |                         |
|-------------|-----------------|-------------------------|
| UL approval | Ta              | -25...60 °C             |
|             | Enclosure type  | Type 1                  |
|             | подача напруги  | Limited Voltage/Current |
|             | UL Approval no. | A024                    |
|             | File number UL  | E174191                 |

| Mechanical data    |      |                                                                                                                        |
|--------------------|------|------------------------------------------------------------------------------------------------------------------------|
| Weight             | [g]  | 142                                                                                                                    |
| Housing            |      | threaded type                                                                                                          |
| Mounting           |      | non-flush mountable                                                                                                    |
| Dimensions         | [mm] | M30 x 1.5 / L = 65                                                                                                     |
| Thread designation |      | M30 x 1.5                                                                                                              |
| Materials          |      | housing: brass white bronze coated; sensing face: PBT orange;<br>LED window: PEI; lock nuts: brass white bronze coated |
| Tightening torque  | [Nm] | 50                                                                                                                     |

| Displays / operating elements |                                |                          |
|-------------------------------|--------------------------------|--------------------------|
| Display                       | target in measuring range      | 4 x LED, yellow lights   |
|                               | target outside measuring range | 4 x LED, yellow flashing |

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

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

## Electrical connection - plug

Connector: 1 x M12; coding: A



## Inductive analogue sensor with IO-Link

IIK4015A2PKG/IO/US

### Connection



|   |               |
|---|---------------|
| 1 | L +           |
| 2 | OUT           |
| 3 | L -           |
| 4 | OUT / IO-Link |