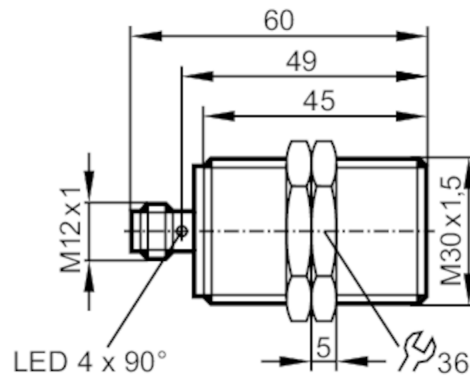


# IIP200



## Inductive sensor

IHK3010-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]	M30 x 1.5 / 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]	2...9.7
Measuring range IO-Link [mm]	1...10

### Accuracy / deviations

Repeatability	< 40 µm
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Factory calibration (target: aluminium, 60x60 mm)		
Resolution	[ $\mu\text{m}$ ]	15
Temperature drift		$\pm 4 \mu\text{m/K}$
Linearity deviation		$\pm 40 \mu\text{m}$
application calibration (1-point calibration; target: steel, 60x60 mm)		
Resolution	[ $\mu\text{m}$ ]	15
Temperature drift		$\pm 6 \mu\text{m/K}$
Linearity deviation		$\pm 200 \mu\text{m}$
Application calibration (3-point calibration; target: steel, 30x30 mm)		
Resolution	[ $\mu\text{m}$ ]	15
Temperature drift		$\pm 6 \mu\text{m/K}$
Linearity deviation		$\pm 100 \mu\text{m}$
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	<b>Type of operation</b>	<b>DeviceID</b>
	default	1708
Operating conditions		
Ambient temperature	[ $^{\circ}\text{C}$ ]	-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 $^{\circ}\text{C}$ ; TB = 70 $^{\circ}\text{C}$ ; t1 = 30 min; t2 = < 10 s; 50 cycles
MTTF	[years]	1341
Embedded software included		yes

# IIP200



## Inductive sensor

IHK3010-FRKG/V4A/IO/US-104

UL approval	Ta	-25...70 °C
	Enclosure type	Type 1
	power supply	Limited Voltage/Current
	UL Approval no.	A005
	File number UL	E174191

### Mechanical data

Weight	[g]	124.3
Housing		threaded type
Mounting		flush mountable
Dimensions	[mm]	M30 x 1.5 / L = 60
Thread designation		M30 x 1.5
Materials		housing: stainless steel (1.4404 / 316L); sensing face: LCP white; LED window: PEI; lock nuts: stainless steel (1.4404 / 316L)
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
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### Remarks

Pack quantity	1 pcs.
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### Electrical connection - plug

Connector: 1 x M12; coding: A



## Inductive sensor

IIK3010-FRKG/V4A/IO/US-104

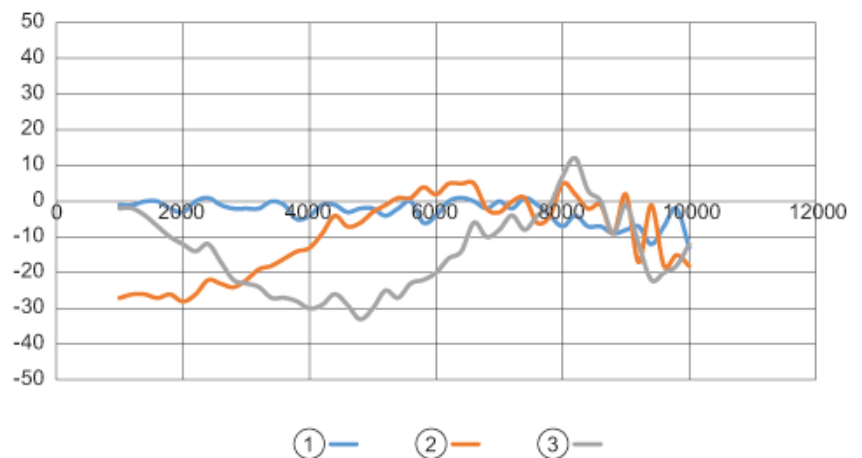
### Connection



4: OUT / IO-Link

### Diagrams and graphs

#### Linearity deviation



- x measured value [µm]
- y Linearity deviation [µm]
- 1 Factory calibration (target: aluminium, 60x60 mm)
- 2 application calibration (1-point calibration; target: steel, 60x60 mm)
- 3 Application calibration (3-point calibration; target: steel, 30x30 mm)