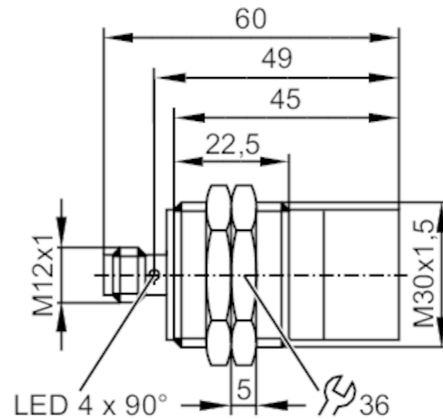


IIP201



Inductive sensor

IHK3015-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]	3...14.55
Measuring range IO-Link [mm]	1.5...15

Accuracy / deviations

Repeatability	< 40 µm
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Factory calibration (target: aluminium, 120x120 mm)						
Resolution	[μm]	15				
Temperature drift		$\pm 6 \mu\text{m/K}$				
Linearity deviation		$\pm 40 \mu\text{m}$				
application calibration (1-point calibration; target: steel, 120x120 mm)						
Resolution	[μm]	15				
Temperature drift		$\pm 9 \mu\text{m/K}$				
Linearity deviation		$\pm 200 \mu\text{m}$				
Application calibration (3-point calibration; target: steel, 60x60 mm)						
Resolution	[μm]	15				
Temperature drift		$\pm 9 \mu\text{m/K}$				
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		<table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>1709</td> </tr> </tbody> </table>	Type of operation	DeviceID	default	1709
Type of operation	DeviceID					
default	1709					
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]	1337				
Embedded software included		yes				

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Inductive sensor

IHK3015-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]	110.8
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

Remarks	
Pack quantity	1 pcs.

Electrical connection - plug

Connector: 1 x M12; coding: A



Inductive sensor

IHK3015-FRKG/V4A/IO/US-104

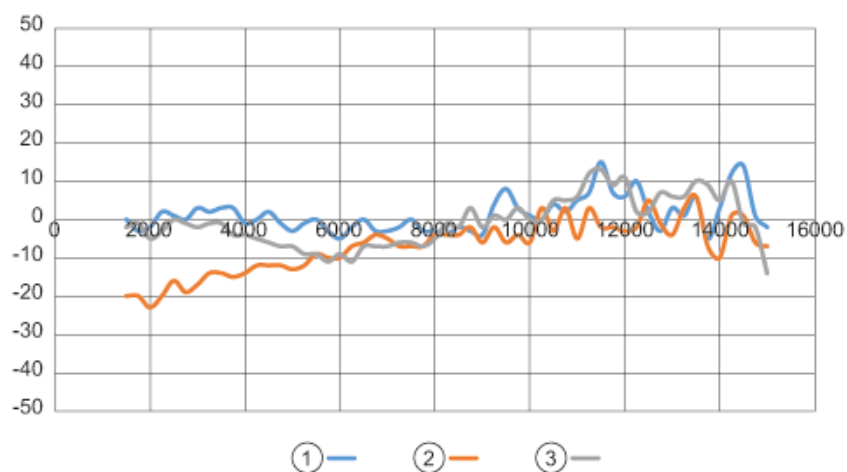
Connection



4: OUT / IO-Link

Diagrams and graphs

Linearity deviation



- x measured value [µm]
 y Linearity deviation [µm]
 1 Factory calibration (target: aluminium, 120x120 mm)
 2 application calibration (1-point calibration; target: steel, 120x120 mm)
 3 Application calibration (3-point calibration; target: steel, 60x60 mm)