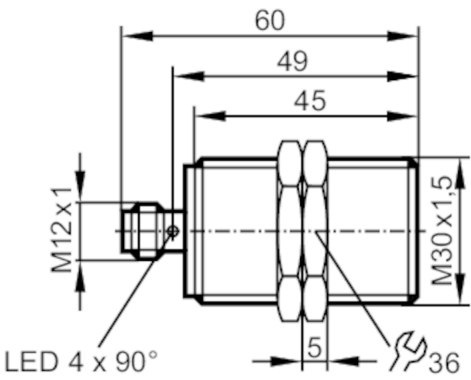




Inductive sensor

IIK3010-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



Inductive sensor

IIK3010-FRKG/V4A/IO/US-104

Factory calibration (target: aluminium, 60x60 mm)		
Resolution	[µm]	15
Temperature drift		± 4 µm/K
Linearity deviation		± 40 µm
Application calibration (1-point calibration; target: steel, 60x60 mm)		
Resolution	[µm]	15
Temperature drift		± 6 µm/K
Linearity deviation		± 200 µm
Application calibration (3-point calibration; target: steel, 30x30 mm)		
Resolution	[µm]	15
Temperature drift		± 6 µm/K
Linearity deviation		± 100 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	1708
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



Inductive sensor

IIK3010-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 (316L/1.4404); sensing face: LCP white; 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
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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

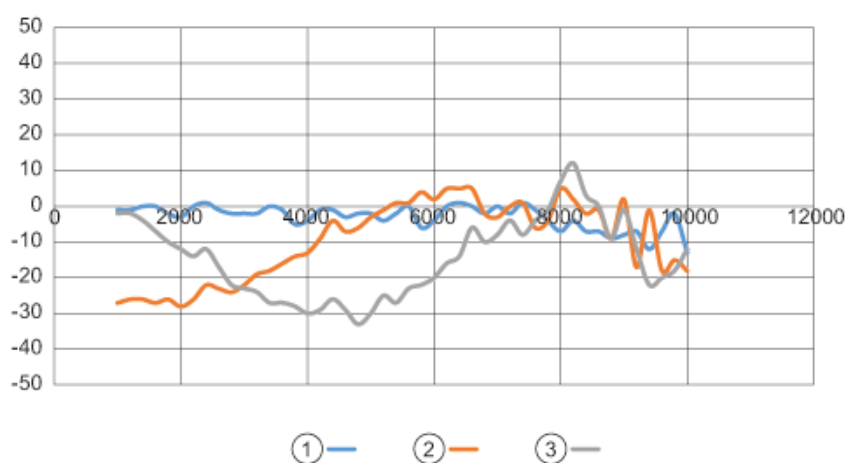
Connection



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)