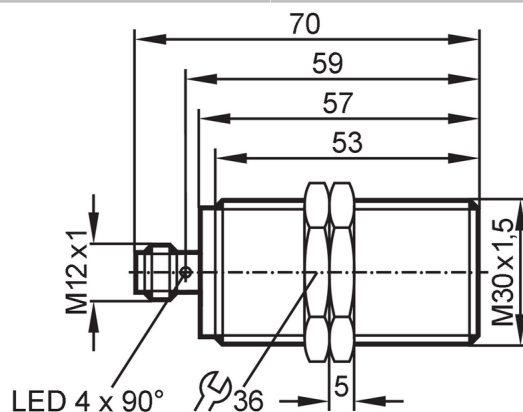




Inductive analog sensor with IO-Link

IIK4010A1PKG/IO/US



Product characteristics

Electrical design	PNP/NPN; (configurable)
Output function	normally open / closed; (configurable)
Communication interface	IO-Link
Housing	Threaded type
Dimensions [mm]	M30 x 1.5 / L = 70

Electrical data

Operating voltage [V]	15...30 DC
Current consumption [mA]	< 30
Protection class	II
Reverse polarity protection	yes

Outputs

Electrical design	PNP/NPN; (configurable)
Output function	normally open / closed; (configurable)
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	100
Switching frequency DC [Hz]	300
Analog current output [mA]	4...20; (linear; gradient: 1,778 mA/mm; for frontal approach and for target made of mild steel: 30 x 30 x 1 mm)
Max. load [Ω]	500; (U _b ≤ 18 V; Max. load ≤ 400 Ω)
Short-circuit protection	yes
Overload protection	yes

Monitoring range

Measuring range [mm]	1...10
Switch point IO-Link [mm]	1.88...9.35

Accuracy / deviations

Correction factor	steel: 1 / stainless steel: 0.8 / brass: 0.5 / aluminum: 0.5 / copper: 0.4
Hysteresis [% of Sr]	3...15
Note on hysteresis	configurable



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Linearity error of analog output	[%]	± 1 ; (of the final value of the measuring range)
Repeatability analog output	[%]	± 1 ; (of the final value of the measuring range)
Temperature coefficient	[%/K vom MEW]	$\pm 0,15$
Temperature drift		$\pm 5 \%$; (of the final value of the measuring range)

Reaction times

Response time	[ms]	< 10
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Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Smart Sensor - SSP 0	Generic Profiled Sensor
	Common - I&D	Identification and Diagnosis
	Function	Multiple switching signal
	Function	Teach channel
SIO mode	yes	
Required master port class	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	1205
Note	For further information please see the IODD PDF file at "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 per frequency; 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 changes	EN 60068-2-14 Na	TA = -25°C; TB = 80°C; t1 = 30 min; t2 = < 10 s 50 cycles
MTTF	[years]	515
Embedded software included		yes



Inductive analog sensor with IO-Link

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UL approval	Ta	-25...60 °C
	Enclosure type	Type 1
	voltage supply	Limited Voltage/Current
	UL approval number	A023
	File number UL	E174191

Mechanical data		
Weight	[g]	125.9
Housing		Threaded type
Mounting		flush mountable
Dimensions	[mm]	M30 x 1.5 / L = 70
Thread designation		M30 x 1.5
Material		housing: brass white bronze coated; sensing face: PBT orange; 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

Accessories	
Items supplied	lock nuts: 2

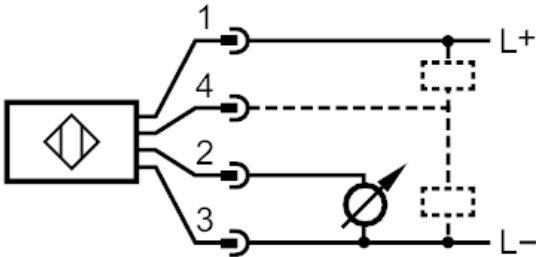
Remarks	
Pack quantity	1 pcs.

Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: 4



Connection



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