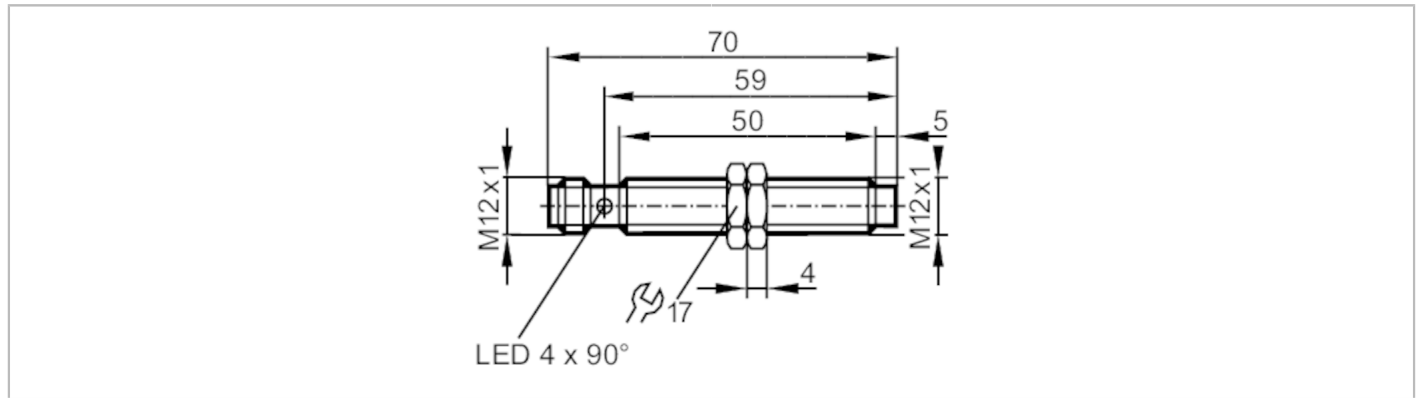


IF6031



Inductive analog sensor with IO-Link

IFK4004A2PKG/IO/US



Product characteristics		
Electrical design		PNP/NPN; (configurable)
Output function		normally open / closed; (configurable)
Communication interface		IO-Link
Housing		Threaded type
Dimensions	[mm]	M12 x 1 / 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]	200
Analog voltage output	[V]	0...10; (linear; gradient: 2,778 V/mm; for frontal approach and for target made of mild steel: 12 x 12 x 1 mm)
Min. load resistance	[Ω]	2000
Short-circuit protection		yes
Overload protection		yes
Monitoring range		
Measuring range	[mm]	0.4...4
Switch point IO-Link	[mm]	0.75...3.74

IF6031



Inductive analog sensor with IO-Link

IFK4004A2PKG/IO/US

Accuracy / deviations									
Correction factor	steel: 1 / stainless steel: 0.7 / brass: 0.4 / aluminum: 0.4 / copper: 0.3								
Hysteresis [% of Sr]	3...15								
Note on hysteresis	configurable								
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]	±0,15								
Temperature drift	± 5 %; (of the final value of the measuring range)								
Reaction 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 class	A								
Min. process cycle time [ms]	3.2								
IO-Link process data (cyclical)	<table border="1"><thead><tr><th>Function</th><th>bit length</th></tr></thead><tbody><tr><td>process value</td><td>16</td></tr><tr><td>device status</td><td>4</td></tr><tr><td>binary switching information</td><td>2</td></tr></tbody></table>	Function	bit length	process value	16	device status	4	binary switching information	2
	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	<table border="1"><thead><tr><th>Type of operation</th><th>DeviceID</th></tr></thead><tbody><tr><td>default</td><td>1206</td></tr></tbody></table>	Type of operation	DeviceID	default	1206				
	Type of operation	DeviceID							
default	1206								
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								

IF6031



Inductive analog sensor with IO-Link

IFK4004A2PKG/IO/US

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]		220
Embedded software included		yes
UL approval	Ta	-25...60 °C
	Enclosure type	Type 1
	voltage supply	Limited Voltage/Current
	UL approval number	A024
	File number UL	E174191

Mechanical data		
Weight [g]		44.5
Housing		Threaded type
Mounting		non-flush mountable
Dimensions [mm]		M12 x 1 / L = 70
Thread designation		M12 x 1
Material		housing: brass white bronze coated; sensing face: PBT orange; LED window: PEI; lock nuts: brass white bronze coated
Tightening torque [Nm]		7

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



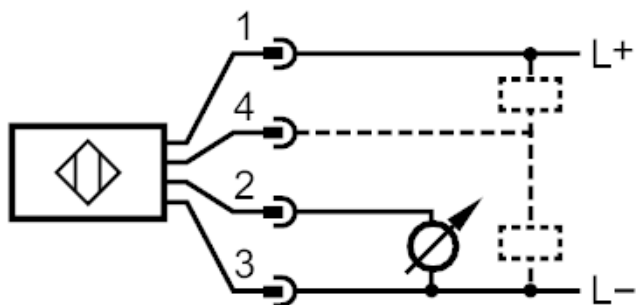
IF6031



Inductive analog sensor with IO-Link

IFK4004A2PKG/IO/US

Connection



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