

Inductive sensor

IFK3010-BPKG/K1/V4A/US-104



Product characteristics

Electrical design	PNP
Output function	normally open
Sensing range [mm]	10
Housing	threaded type
Dimensions [mm]	M12 x 1 / L = 60

Application

Special feature	Gold-plated contacts; Increased sensing range; Correction factor K = 1; Magnetic-field immune
Application	material handling; refrigerated warehouse / shock freezing; Suitable for industrial, mobile, cooling and lubricating applications; Industrial applications / factory automation
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
Output function	normally open
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	100
Switching frequency DC [Hz]	2000
Short-circuit protection	yes
Overload protection	yes

Detection zone

Sensing range [mm]	10
Real sensing range Sr [mm]	10 ± 10 %
Operating distance [mm]	0...8.1

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Increased sensing range		yes	
Accuracy / deviations			
Correction factor		steel: 1 / stainless steel: 1 / brass: 1 / aluminium: 1 / copper: 1	
Hysteresis [% of Sr]		3...15	
Switch point drift [% of Sr]		-10...10	
Correction factor K = 1		yes	
Operating conditions			
Ambient temperature [°C]		-40...85	
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		40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes
Fast temperature change	EN 60068-2-14 Na		TA = -40 °C; TB = 85 °C; t1 = 30 min; t2 = < 10 s; 50 cycles
Salt spray test	EN 60068-2-52 Kb		severity level 5 (4 test cycles)
MTTF [years]	473		
Embedded software included		yes	
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]		25.5	
Housing		threaded type	
Mounting		non-flush mountable	
Dimensions [mm]		M12 x 1 / L = 60	
Thread designation		M12 x 1	
Materials		stainless steel (316L/1.4404); sensing face: LCP white; LED window: PEI; lock nuts: stainless steel (316L/1.4404)	
Displays / operating elements			
Display		switching status	4 x LED, yellow
Accessories			
Items supplied		lock nuts: 2	
Remarks			
Pack quantity		1 pcs.	

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Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: gold-plated



Connection



Diagrams and graphs

Installation

