



Inductive sensor

IIK3022-BPKG/M/60V/US-104



Product characteristics

Electrical design	PNP
Output function	normally open
Sensing range [mm]	22
Housing	Threaded type
Dimensions [mm]	M30 x 1.5 / L = 70

Application

System	gold-plated contacts; Increased sensing range
Application	Use in mobile and harsh applications

Electrical data

Operating voltage [V]	10...60 DC
Current consumption [mA]	< 10
Protection class	II
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]	200
Switching frequency DC [Hz]	100
Short-circuit protection	yes
Overload protection	yes

Monitoring range

Sensing range [mm]	22
Real sensing range S_r [mm]	$22 \pm 10 \%$
Operating distance [mm]	0...17.82
Increased sensing range	yes



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Accuracy / deviations			
Correction factor		steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminum: 0.45 / copper: 0.35	
Hysteresis	[% of Sr]	1...20	
Switch-point drift	[% of Sr]	-10...10	
Operating conditions			
Ambient temperature		[°C]	-40...85
Protection		IP 67; IP 69K	
Tests / approvals			
EMC	Automotive area		
	Noise emission and noise interference: ECE R10		E1 type approval
	noise immunity according to DIN ISO 11452-2		100 V/m
	conducted interference in 24 V networks to ISO 7637-2: 2004 (pulse 1 to 4) and ISO16750-2: 2012 (load dump)		
	pulse		1 2a 2b 3a 3b 4 Load dump
	Severity level		III III III III III Test A
	Failure criterion		C A C A A C C
	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 61000-4-5 Surge		0,5 kV mains line to line
	EN 61000-4-6 HF conducted		10 V
	EN 55011		class B
	Vibration resistance	EN 60068-2-6 Fc	
		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 / -40...85 °C
Continuous shock resistance	EN 60068-2-27		40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes / -20...50 °C
Fast temperature changes	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]	900	
UL approval	Ta		0...40 °C
	Enclosure type		Type 1
	voltage supply		Class 2
	File number UL		E174191
Mechanical data			
Weight	[g]	117.8	
Housing	Threaded type		
Mounting	non-flush mountable		
Dimensions	[mm]	M30 x 1.5 / L = 70	
Thread designation	M30 x 1.5		
Material	threaded sleeve: stainless steel; sensing face: LCP natural; LED window: PEI; lock nuts: brass		

IIM209



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Displays / operating elements

Display	Switching status	4 x 90° LED, yellow
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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; Contacts: gold-plated



Connection

