

Inductive sensor

IIB3022-BNKG/US-104



Product characteristics

Electrical design	NPN
Output function	normally closed
Sensing range [mm]	22
Housing	threaded type
Dimensions [mm]	M30 x 1.5 / L = 50

Application

Special feature	Gold-plated contacts; Increased sensing range
Application	Industrial applications / factory automation

Electrical data

Operating voltage [V]	10...30 DC
Current consumption [mA]	< 10
Protection class	III
Reverse polarity protection	yes

Outputs

Electrical design	NPN
Output function	normally closed
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	100
Switching frequency DC [Hz]	100
Short-circuit protection	yes
Overload protection	yes

Detection zone

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 / aluminium: 0.4 / copper: 0.3	
Hysteresis [% of Sr]	3...15	
Switch point drift [% of Sr]	-10...10	
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 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 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]	1600	
UL approval	Ta	-25...70 °C
	Enclosure type	Type 1
	voltage supply	Limited Voltage/Current
	UL Approval no.	A001
	File number UL	E174191
Mechanical data		
Weight [g]	98.3	
Housing	threaded type	
Mounting	non-flush mountable	
Dimensions [mm]	M30 x 1.5 / L = 50	
Thread designation	M30 x 1.5	
Materials	brass white bronze coated; sensing face: PBT orange; LED window: PEI; lock nuts: brass white bronze coated	
Displays / operating elements		
Display	switching status	4 x LED, yellow
Accessories		
Accessories (supplied)	lock nuts: 2	
Remarks		
Pack quantity	1 pcs.	
Electrical connection - plug		
Connector: 1 x M12; Contacts: gold-plated		

IIS249

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Connection

