

Inductive full-metal sensor

IEB3002BBNKG/AM/2M/PUR



1: LED yellow



Product characteristics

Electrical design	NPN
Output function	normally closed
Sensing range [mm]	2
Housing	threaded type
Dimensions [mm]	M8 x 1 / L = 37.5

Application

Special feature	Increased sensing range
Application	Use in machine tools, coolants and lubricants

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]	2
Real sensing range S_r [mm]	$2 \pm 10\%$
Operating distance [mm]	0...1.62
Increased sensing range	yes

Accuracy / deviations

Correction factor	steel: 1 / stainless steel: 0.7 / brass: 0.7 / aluminium: 0.6 / copper: 0.5
Hysteresis [% of S_r]	1...20
Switch point drift [% of S_r]	-10...10



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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
Impact resistance		1 J
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]	1389
Embedded software included		yes
UL approval	Ta	-25...70 °C
	Enclosure type	Type 1
	power supply	Limited Voltage/Current
	UL Approval no.	A032
	File number UL	E174191
Mechanical data		
Weight	[g]	40.5
Housing		threaded type
Mounting		flush mountable
Dimensions	[mm]	M8 x 1 / L = 37.5
Thread designation		M8 x 1
Materials		stainless steel (316L/1.4404); sensing face: stainless steel (316L/1.4404); LED window: PEI; lock nuts: stainless steel (316L/1.4404)
Tightening torque	[Nm]	< 5
Displays / operating elements		
Display	switching status	1 LED, yellow
Accessories		
Items supplied		lock nuts: 2
Remarks		
Pack quantity		1 pcs.



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Electrical connection - Cable

Cable: 2 m, PUR, Ø 2.9 mm; 3 x 0.14 mm²

Connection



BN	brown
BK	black
BU	blue