

Inductive full-metal sensor

IEB3003QBPKG/AM/P/AS



Product characteristics

Electrical design	PNP
Output function	normally open
Sensing range [mm]	3
Housing	threaded type
Dimensions [mm]	M8 x 1 / L = 45

Application

Special feature	Gold-plated contacts; Increased sensing range; Full-metal housing
Application	Use in machine tools, coolants and lubricants
Pressure rating [bar]	50
Pressure rating [MPa]	5
Note on pressure rating	sensing face

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]	250
Short-circuit protection	yes
Overload protection	yes

Detection zone

Sensing range [mm]	3
Real sensing range S_r [mm]	$3 \pm 10 \%$
Operating distance [mm]	0...2.43
Increased sensing range	yes



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Accuracy / deviations		
Correction factor	steel: 1 / stainless steel: 0.9 / brass: 0.4 / 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; (with ifm socket duly screwed on)	
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]	1261	
Embedded software included	yes	
UL approval	Ta	-25...85 °C
	Enclosure type	Type 1
	power supply	Limited Voltage/Current
	UL Approval no.	A017
	File number UL	E174191
Mechanical data		
Weight [g]	15.7	
Housing	threaded type	
Mounting	quasi flush	
Dimensions [mm]	M8 x 1 / L = 45	
Thread designation	M8 x 1	
Materials	stainless steel (316L/1.4404); sensing face: stainless steel (316L/1.4404); LED window: PPSU; lock nuts: stainless steel (316L/1.4404)	
Tightening torque [Nm]	5	
Full-metal housing	yes	
Displays / operating elements		
Display	switching status	4 x 90° LED, yellow
Accessories		
Items supplied	lock nuts: 2	
Remarks		
Pack quantity	1 pcs.	

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Electrical connection - plug

Connector: 1 x M8; coding: A; Contacts: gold-plated



Connection



Diagrams and graphs

