

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

System	gold-plated contacts; Increased sensing range; Full-metal housing
Application	Oils and coolants
Pressure rating	50 bar 5 MPa
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

Monitoring range

Sensing range [mm]	3
Real sensing range Sr [mm]	3 ± 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 / aluminum: 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 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 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]	1261	
Embedded software included		yes	
UL approval	Ta		-25...85 °C
	Enclosure type		Type 1
	voltage supply		Limited Voltage/Current
	UL approval number		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		
Material	stainless steel (1.4404 / 316L); sensing face: stainless steel (1.4404 / 316L); LED window: PPSU; lock nuts: stainless steel (1.4404 / 316L)		
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

