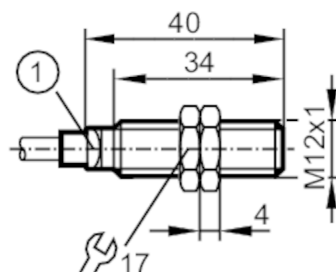


IFR212



Inductive full-metal sensor

IFB3004BBPKG/AM/SC/2M/PUR



1 LED 2-color yellow/green



Product characteristics

Electrical design	PNP
Output function	normally open
Sensing range [mm]	4
Housing	Threaded type
Dimensions [mm]	M12 x 1 / L = 40

Application

System	Halogen-free; Drag chain suitability; Increased sensing range; Full-metal housing; Magnetic-field immune; weld coated
Application	Use in welding applications
Pressure rating [bar]	50
Note on pressure rating	sensing face
Magnetic-field immune	yes

Electrical data

Operating voltage [V]	10...30 DC
Current consumption [mA]	< 10
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]	2
Short-circuit protection	yes
Overload protection	yes

Monitoring range

Sensing range [mm]	4
Real sensing range S_r [mm]	$4 \pm 10\%$
Operating distance [mm]	0...3.24
Increased sensing range	yes



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Accuracy / deviations		
Correction factor	steel: 1 / stainless steel: 0.7 / brass: 0.6 / aluminum: 0.5 / copper: 0.2	
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
Impact resistance		1 J
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]	1188	
Embedded software included	yes	
UL approval	Ta	-25...75 °C
	Enclosure type	Type 1
	voltage supply	Limited Voltage/Current
	UL approval number	A019
	File number UL	E174191
Mechanical data		
Weight [g]	86	
Housing	Threaded type	
Mounting	flush mountable	
Dimensions [mm]	M12 x 1 / L = 40	
Thread designation	M12 x 1	
Material	stainless steel (1.4404 / 316L) weld coated; sensing face: stainless steel (1.4404 / 316L) weld coated; LED window: PEI; lock nuts: brass weld coated	
Tightening torque [Nm]	6	
Drag chain suitability	yes	
Drag chain suitability	Bending radius for flexible applications	min. 10 x cable diameter
	Bending cycles	> 5 Mio.
Full-metal housing	yes	
Displays / operating elements		
Display	Switching status	LED, yellow
	Power	LED, green

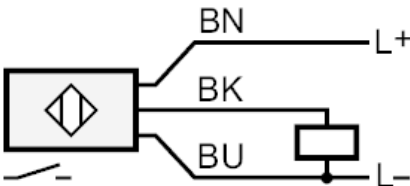
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Accessories	
Items supplied	lock nuts: 2
Remarks	
Pack quantity	1 pcs.
Electrical connection	
Cable: 2 m, PUR, Halogen-free, Ø 4.9 mm; not irradiated (can be recycled); 3 x 0.34 mm² / resistant to welding sparks	
Connection	



	Core colors
BK	black
BN	brown
BU	blue