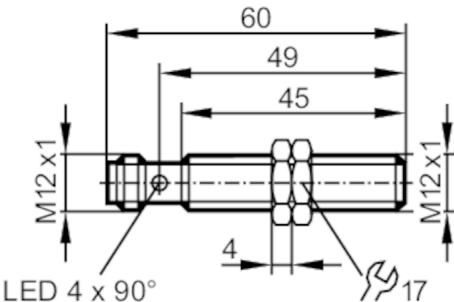


IFM213



Inductive sensor

IFKC004BASKG/60V/V4A/US-104



Product characteristics

Electrical design	PNP/NPN
Output function	normally open
Sensing range [mm]	4
Housing	Threaded type
Dimensions [mm]	M12 x 1 / L = 60

Application

System	gold-plated contacts; Increased sensing range
Application	Use in mobile and harsh applications

Electrical data

Operating voltage [V]	10...60 DC
Current consumption [mA]	< 10
Protection class	II
Reverse polarity protection	yes

Outputs

Electrical design	PNP/NPN
Output function	normally open
Max. voltage drop switching output DC [V]	2.5
Minimum load current [mA]	2; (only in 2-wire operation)
Max. leakage current [mA]	0.5; (only in 2-wire operation)
Permanent current rating of switching output DC [mA]	200
Switching frequency DC [Hz]	400
Short-circuit protection	yes
Type of short-circuit protection	yes (non-latching)
Overload protection	yes

Monitoring range

Sensing range [mm]	4
Real sensing range Sr [mm]	4 ± 10 %
Operating distance [mm]	0...3.24

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Increased sensing range		yes	
Accuracy / deviations			
Correction factor		steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminum: 0.4 / copper: 0.3	
Hysteresis [% of Sr]		1...20	
Switch-point drift [% of Sr]		-10...10	
Operating conditions			
Ambient temperature [°C]		-40...85	
Protection		IP 67; IP 69K	
Tests / approvals			
EMC	Automotive area		
	Noise emission and noise interference: ECE R10		E1 type approval
	noise immunity according to DIN ISO 11452-2		100 V/m
	conducted interference in 24 V networks to ISO 7637-2: 2004 (pulse 1 to 4) and ISO16750-2: 2012 (load dump)		
	pulse		1 2a 2b 3a 3b 4 Load dump
	Severity level		III III III III III Test A
	Failure criterion		C A C A A C C
	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 61000-4-5 Surge		0,5 kV mains line to line
	EN 61000-4-6 HF conducted		10 V
	EN 55011		class B
	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]	1079		
UL approval	Ta	0...40 °C	
	Enclosure type	Type 1	
	UL approval number	A050	
	File number UL	E174191	
Mechanical data			
Weight [g]	30.4		
Housing	Threaded type		
Mounting	flush mountable		
Dimensions [mm]	M12 x 1 / L = 60		
Thread designation	M12 x 1		
Material	housing: stainless steel (1.4404 / 316L); sensing face: LCP white; LED window: PEI; lock nuts: brass white bronze coated		
Tightening torque [Nm]	15		
Displays / operating elements			
Display	Switching status	4 x 90° LED, yellow	
Accessories			
Items supplied	lock nuts: 2		

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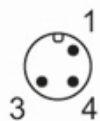
Remarks

Pack quantity

1 pcs.

Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: gold-plated



Connection

