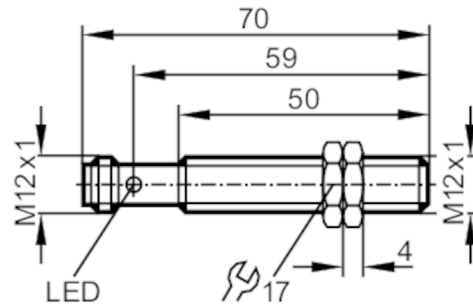


# IFM223



## Inductive sensor

IFKC004BBSKG/M/60V/US-104-DRO



### Product characteristics

Electrical design	PNP/NPN
Output function	normally closed
Sensing range [mm]	4
Housing	threaded type
Dimensions [mm]	M12 x 1 / L = 70

### Application

Special feature	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; (only in 3-wire operation)
Protection class	II
Reverse polarity protection	yes

### Outputs

Electrical design	PNP/NPN
Output function	normally closed
Max. voltage drop switching output DC [V]	2.5; (100 mA)
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	pulsed
Overload protection	yes

### Detection zone

Sensing range [mm]	4
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: 0.5 / aluminium: 0.5 / copper: 0.4	
Hysteresis [% of Sr]	1...20	
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 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
	Vibration resistance	EN 60068-2-6 Fc
EN 60068-2-27 Ea		100 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes / -40...85 °C
Shock resistance	EN 60068-2-27	40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes / -20...50 °C
Continuous shock resistance	EN 60068-2-14 Na	TA = -40 °C; TB = 85 °C; t1 = 30 min; t2 = < 10 s; 50 cycles
Fast temperature change	EN 60068-2-52 Kb	severity level 5 (4 test cycles)
Salt spray test	MTTF [years]	662
Mechanical data		
Weight [g]	32.3	
Housing	threaded type	
Mounting	flush mountable	
Dimensions [mm]	M12 x 1 / L = 70	
Thread designation	M12 x 1	
Materials	housing: stainless steel; sensing face: LCP natural; LED window: PEI; lock nuts: brass	
Displays / operating elements		
Display	switching status	4 x 90° LED, yellow

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### Accessories

Items supplied	lock nuts: 2, brass
	lock nuts: 2, PBT, E10023
	rubber washers: 2

### Remarks

Pack quantity	1 pcs.
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### Electrical connection - plug

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

