

IFM221



Inductive sensor

IFKC007-ASKG/M/60V/1,5M/ZH/AMP



Product characteristics

Electrical design	PNP/NPN
Output function	normally open
Sensing range [mm]	7
Housing	threaded type
Dimensions [mm]	M12 x 1 / L = 79

Application

Special feature	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 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	pulsed
Overload protection	yes

Detection zone

Sensing range [mm]	7
Real sensing range Sr [mm]	7 ± 10 %
Operating distance [mm]	0...5.67



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Increased sensing range		yes	
Accuracy / deviations			
Correction factor		steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminium: 0.5 / copper: 0.4	
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 immunity: 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	20 g (10...3000 Hz) / -20...50 °C	
		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 / -40...85 °C	
Continuous shock resistance	EN 60068-2-27	40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes / -20...50 °C	
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]	666		
Mechanical data			
Weight [g]	138		
Housing	threaded type		
Mounting	non-flush mountable		
Dimensions [mm]	M12 x 1 / L = 79		
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	
Accessories			
Items supplied	lock nuts: 2		

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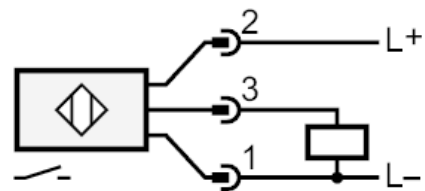
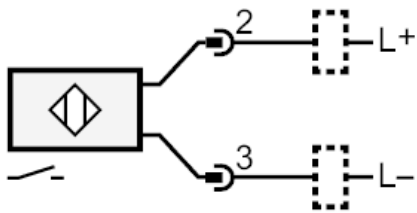
Remarks

Pack quantity	1 pcs.
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Electrical connection

Cable: 1.5 m, PUR; burning behaviour to ECE R118 rev. 2; 3 x 0.5 mm²

Connection



Connector: 1 x AMP (1-967325-2; 929974-1; 828920-1; 965784-1)