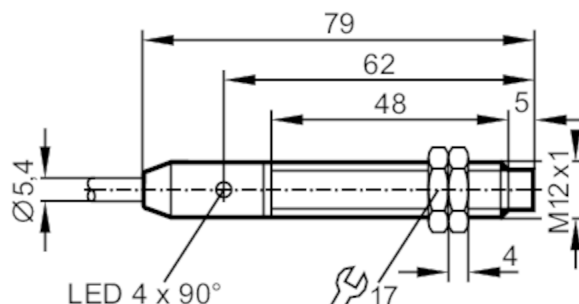


IFM221



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

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Detection zone		
Sensing range [mm]	7	
Real sensing range Sr [mm]	7 ± 10 %	
Operating distance [mm]	0...5.67	
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 interference according to the automotive directive 95/54/EC	E1 type approval
	noise immunity according to DIN ISO 11452-2	100 V/m
	conducted interference acc. to ISO 7637-2	
	pulse	1 2 3a 3b 4 5
	severity level	IV IV IV IV IV IV
	failure criterion	C C A A A 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 line to line, Ri: 2 Ohm
	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 per frequency; 1 octave per minute in 3 axes
	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]		666
Mechanical data		
Weight [g]		135
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: PBT; lock nuts: brass; LED window: PEI

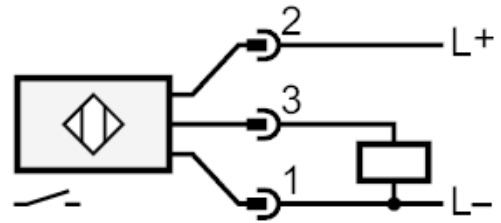
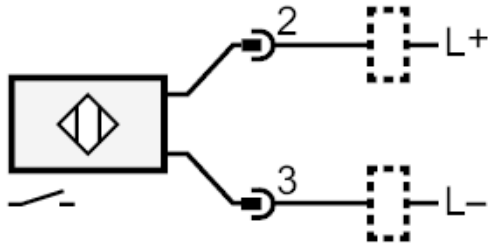
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Displays / operating elements		
Display	switching status	4 x 90° LED, yellow
Accessories		
Accessories (supplied)	lock nuts: 2	
Remarks		
Pack quantity	1 pcs.	
Electrical connection		
Cable: 1.5 m, PUR; burning behaviour to ECE R118 rev. 2; 3 x 0.5 mm ²		
Connection		



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