



Product characteristics

Inductive sensor

Metal thread M12 x 1

Cable

Increased sensing range

e1 type approval

Sensing range 4 mm; [f] flush mountable

Electrical data

Electrical design

DC PNP

Operating voltage [V]

10...60 DC

Current consumption [mA]

< 10

Protection class

II

Reverse polarity protection

yes

Outputs

Output function

normally open

Voltage drop [V]

< 2.5

Current rating [mA]

200

Short-circuit protection

yes (non-latching)

Overload protection

yes

Switching frequency [Hz]

400

Monitoring range

Sensing range [mm]

4

Operating distance [mm]

0...3.24

Accuracy / deviations

Correction factors

mild steel = 1 / stainless steel approx. 0.7 / brass approx. 0.5 / aluminium approx. 0.5 / Cu approx. 0.4

Hysteresis [% of Sr]

1...20

Environment

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 interference according to DIN

ISO 11452-2: 100 V/m

Conducted interference according 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

IFM209 - Inductive sensor - eclass: 27270101 / 27-27-01-01

	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°C and 50°C 50 cycles per frequency, 1 octave per minute in each of 3 mutually perpendicular axes
Shock resistance	EN 60068-2-27 Ea	100 g (11 ms half sine; 3 shocks in each direction along the three coordinate axes) / -40°C and 85°C
Continuous shock resistance	EN 60068-2-29 Eb	40 g (6 ms; 4000 shocks in each direction along the three coordinate axes) / -20°C and 50°C
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]		662
Mechanical data		
Mounting	flush mountable	
Housing materials	housing: stainless steel; active face: PBT; lock nuts: brass	
Weight [kg]	0.281	
Displays / operating elements		
Output status indication LED	yellow (4 x 90°)	
Electrical connection		
Connection	PUR cable / 6 m; 3 x 0.5 mm ² ; Brennverhalten gemäß ECE R118 Rev.2	
Wiring		
Core colors		
BK	black	
BN	brown	
BU	blue	
Accessories		
Accessories (included)	2 lock nuts	
Remarks		
Pack quantity [piece]	1	