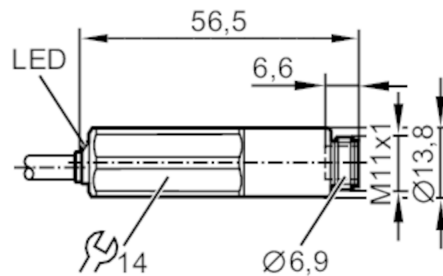


M9H212



Position sensor

M9B3002-BPKG/B/AM/0,5M/ZH/US



Product characteristics

Electrical design	PNP
Output function	normally open
Dimensions [mm]	M11 x 1 / L = 56.5

Application

Application	lubricant distributor with plunger
Media	detects ferrous metals
Pressure rating [bar]	350

Electrical data

Operating voltage [V]	10...60 DC
Rated insulation voltage [V]	60
Current consumption [mA]	< 20
Protection class	III
Reverse polarity protection	yes
Max. power-on delay time [ms]	300

Outputs

Electrical design	PNP
Output function	normally open
Max. voltage drop switching output DC [V]	2.5
Max. leakage current [mA]	0.1
Permanent current rating of switching output DC [mA]	100
Switching frequency DC [Hz]	50
Short-circuit protection	yes
Type of short-circuit protection	pulsed
Overload protection	yes

Detection zone

Real sensing range Sr [mm]	$2 \pm 10 \%$
Operating distance [mm]	0...1.62

Accuracy / deviations

Hysteresis [% of Sr]	3...15
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M9H212



Position sensor

M9B3002-BPKG/B/AM/0,5M/ZH/US

Operating conditions		
Ambient temperature	[°C]	-25...70
Note on ambient temperature		Operating voltage: <60V
Ambient temperature	[°C]	-40...85
Note on ambient temperature		Operating voltage: <45V
		for flexibly laid cable: -25 °C
		for firmly laid cable: -40 °C
Protection		IP 65; IP 67
Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m 80...2000 MHz
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-6 HF conducted	10 V 0,15...80 MHz
	EN 61000-4-8	30 A/m
	EN 55011	class B
	noise emission and noise immunity according to the automotive directive 95/54/EC	E1 type approval
	conducted interference in 24 V networks to ISO 7637-2: 2004 (pulse 1 to 4)	
	pulse	1 2a 2b 3a 3b 4
	severity level	III III III III III III
	failure criterion	C B C A A C
Vibration resistance	EN 60068-2-6 Fc	50x 20 g / 10...3000 Hz -20 °C
	EN 60068-2-6 Fc	50x 20 g / 10...3000 Hz +50 °C
Shock resistance	EN 60068-2-27 Ea	3 x 100 g 11 ms / -25 °C
	EN 60068-2-27 Ea	3 x 100 g 11 ms / +85 °C
Continuous shock resistance	EN 60068-2-27 Ea	4000 x 40 g 6 ms / -20 °C / 50 °C
MTTF	[years]	1181
Mechanical data		
Weight	[g]	78.9
Mounting		flush mountable
Dimensions	[mm]	M11 x 1 / L = 56.5
Thread designation		M11 x 1
Materials		sensing face: stainless steel (316L/1.4404); housing: stainless steel (316L/1.4404); end cap: TPU
Tightening torque	[Nm]	< 18
Process connection		threaded connection M11 x 1 external thread
Displays / operating elements		
Display	switching status	LED, yellow
Remarks		
Pack quantity		1 pcs.

M9H212



Position sensor

M9B3002-BPKG/B/AM/0,5M/ZH/US

Electrical connection

Cable: 0.5 m, PUR

Connector: 1 x M12; coding: A

