

Cylinder sensor

MFH3002BBPKG/B/AM/500/ZH/5M



Product characteristics

Electrical design	PNP
Output function	normally open
Sensing range [mm]	1.8
Housing	threaded type
Dimensions [mm]	M12 x 1 / L = 41

Application

Special feature	Full-metal housing	
Application	hydraulic cylinders	
Media	detects ferrous metals	
Min. burst pressure	2000 bar	200 MPa
Pressure rating	500 bar	50 MPa

Electrical data

Operating voltage [V]	10...36 DC
Current consumption [mA]	< 23
Protection class	III
Reverse polarity protection	yes

Outputs

Electrical design	PNP
Output function	normally open
Max. voltage drop switching output DC [V]	1.6
Max. leakage current [mA]	0.1
Permanent current rating of switching output DC [mA]	200
Switching frequency DC [Hz]	1000
Short-circuit protection	yes
Overload protection	yes

Detection zone

Sensing range [mm]	1.8
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Accuracy / deviations

Hysteresis [% of Sr]	< 15
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Switch point drift	[% of Sr]	10
Repeatability	[% of Sr]	10

Operating conditions		
Pressure peak	1000 bar	100 MPa
Ambient temperature	[°C]	-25...85
Protection	IP 65; IP 68; IP 69K	

Tests / approvals		
EMC	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 61000-4-6 HF conducted	10 V
	EN 55011	class B
	DIN ISO 11452-5	100 V/m
Vibration resistance	EN 60068-2-6 Fc	20 g 50 sweep cycles, 1 octave per minute, in 3 axes / 10...3000 Hz -20...50 °C
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 Ea	40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes / -20...50 °C
MTTF	[years]	2114

Mechanical data		
Weight	[g]	170.5
Housing	threaded type	
Mounting	flush mountable	
Dimensions	[mm]	M12 x 1 / L = 41
Thread designation	M12 x 1	
Materials	housing: stainless steel; O-ring: FKM; supporting ring: PTFE	
Tightening torque	[Nm]	< 25
Full-metal housing	yes	

Displays / operating elements		
Display	switching status	1 x LED, yellow

Accessories		
Items supplied	lock nuts: 1 x M12	

Remarks		
Pack quantity	1 pcs.	

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Electrical connection

Cable: 5 m, PUR, Ø 4.9 mm; 3 x 0.34 mm²

Connection



Core colours :
BK = black
BN = brown
BU = blue

Diagrams and graphs

