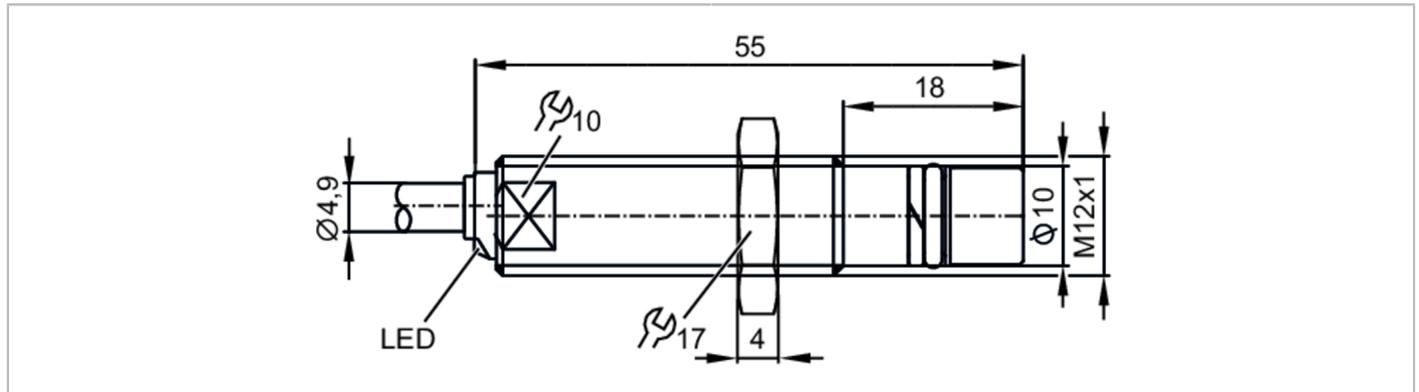


MFH219



Cylinder sensor

MFK4002BFRKG/B/AM/IO/ZH



Product characteristics

Electrical design	PNP/NPN	
Output function	normally open / closed; (configurable)	
Sensing range [mm]	0...2; (Factory setting: 1,65)	
Communication interface	IO-Link	
Housing	Threaded type	
Dimensions [mm]	M12 x 1 / L = 55	

Application

System	Full-metal housing	
Application	Hydraulic cylinder	
Media	Detects ferrous metals	
Min. burst pressure	2000 bar	200 MPa
Pressure rating	500 bar	50 MPa

Electrical data

Operating voltage [V]	10...30 DC	
Rated insulation voltage [V]	60	
Current consumption [mA]	> 25	
Protection class	III	
Reverse polarity protection	yes	
Max. power-on delay time [ms]	300	

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2	
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Outputs

Electrical design	PNP/NPN	
Number of digital outputs	2	
Output function	normally open / closed; (configurable)	
Max. voltage drop switching output DC [V]	1.6	
Max. leakage current [mA]	0.1	
Permanent current rating of switching output DC [mA]	100	
Switching frequency DC [Hz]	200	

MFH219



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Short-circuit protection		yes
Overload protection		yes
Monitoring range		
Sensing range	[mm]	0...2; (Factory setting: 1,65)
Accuracy / deviations		
Hysteresis	[mm]	0.05...0.5; (Factory setting: 0,1)
Switch-point drift	[% of Sr]	10
Repeatability	[% of Sr]	10
Interfaces		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1.3
SDCI standard		IEC 61131-9 CDV
Profiles	Smart Sensor - SSP 4.1.1	Measuring and Switching Sensor, 1 channel
	Common - I&D	Identification and Diagnosis
	Extension	Object detection, switches when value falls below the setpoint
	Function	Locator
	Function	ProductURI
	Function	Teach channel
SIO mode		yes
Required master port class		A
Min. process cycle time	[ms]	4
Supported DeviceIDs	Type of operation	DeviceID
	default	1905
Operating conditions		
Pressure peak	[bar]	1000
Ambient temperature	[°C]	-25...85
Protection		IP 65; IP 67; IP 69K
Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 (80...2000 Mhz)	10 V/m
	EN 61000-4-4	2 kV
	EN 61000-4-6 (0,15...80 Mhz)	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 per frequency; 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
Salt spray test	EN 60068-2-52 Kb	severity level 5 (4 test cycles)

MFH219



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UL approval	Ta	-25...65 °C
	Enclosure type	Type 1
	voltage supply	Limited Voltage/Current
	UL approval number	C025
	File number UL	E174191

Mechanical data

Weight	[g]	94.2
Housing		Threaded type
Mounting		flush mountable
Dimensions	[mm]	M12 x 1 / L = 55
Thread designation		M12 x 1
Material		housing: stainless steel (316L / 1.4404); O-ring: FPM; supporting ring: PTFE; plug: PEI
Min. pressure cycles		10 million
Tightening torque	[Nm]	< 25
Full-metal housing		yes

Displays / operating elements

Display	Switching status	LED, yellow
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Accessories

Items supplied	lock nuts: 1 x M12
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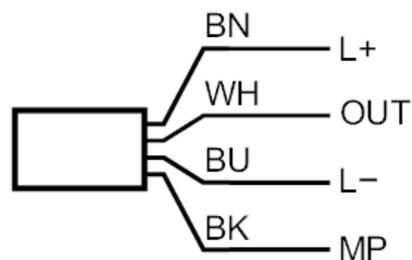
Remarks

Pack quantity	1 pcs.
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Electrical connection

Cable: 2 m, PUR, Ø 4.9 mm; 4 x 0.34 mm²

Connection



BN: brown
 WH: white
 BU: blue
 BK: black

BN L+
 WH OUT DO2 (NO/NC)
 BU L-
 BK MP DO1 (NO/NC), IO-Link
 DO: digital output; MP: multi-function connection