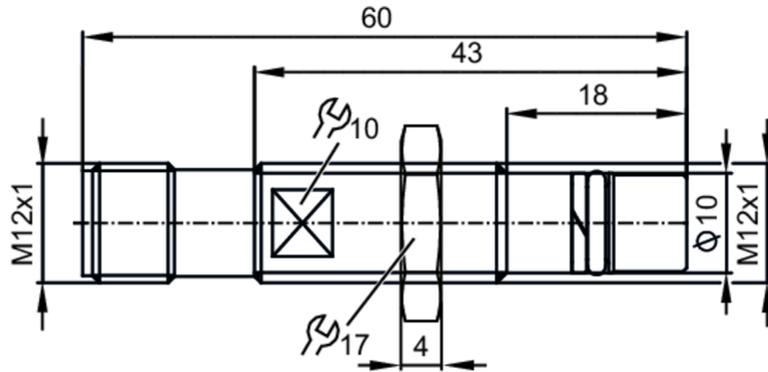


# MFH218



## Cylinder sensor

MFK4002BFRKG/B/AM/IO/US



### 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 = 60	

### 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]	> 20	
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	

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Short-circuit protection	yes
Overload protection	yes

### Monitoring range

Sensing range [mm]	0...2; (Factory setting: 1,65)
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### 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	ProductURI
	Function	Teach single value
SIO mode	yes	
Required master port class	A	
Min. process cycle time [ms]	4	
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	1950

### Operating conditions

Pressure peak [bar]	1000
Ambient temperature [°C]	-25...120
Protection	IP 65; IP 66; IP 68; 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)

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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]	28.98
Housing		Threaded type
Mounting		flush mountable
Dimensions	[mm]	M12 x 1 / L = 60
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

### Accessories

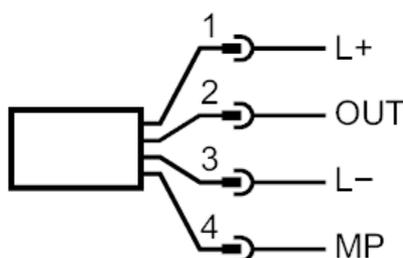
Items supplied		lock nuts: 1 x M12
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### Remarks

Pack quantity		1 pcs.
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### Electrical connection

#### Connection



1	L+	
2	OUT	DO2 (NO/NC)
3	L-	
4	MP	DO1 (NO/NC), IO-Link

DO: digital output; MP: multi-function connection