

MCS Series Metallic Contamination Sensor



Description

The Metallic Contamination Sensor MCS 1000 detects metallic solid particle contamination in lubrication fluid. The particles are determined according to the inductive measurement process, in which a coil system is the key element of the sensor. Metallic particles (ferromagnetic Fe and nonferromagnetic nFe) in the > 200 µm size range are detected.

The MCS 1000 continuously monitors the status of the system and gives information on imminent gear unit damage. This makes the sensor a reliable instrument for status-oriented maintenance.

Features

- Early detection of imminent gear unit damage
- Prevention of expensive plant downtime
- Optimal supplement to optical sensors
- Measurement of metallic particles (ferromagnetic and non-ferromagnetic) > 200 µm
- Measurement result is not affected by air bubbles or liquid contamination in the liquid

Applications

- Gear boxes for wind energy
- Paper machine bearings

Technical Details

General Data	
Ambient temperature	-40 ... +70°C
Diameter sensor cross-section	1" (25.4 mm)
Protection class to DIN 40050	IP 67
Weight	approx. 8 lbs (3.5 kg)
Dimensions (L x W x H)	83 x 162 x 140 mm
Vibration	10 - 58 Hz 58 - 500 Hz
	0.75 mm (amplitude) 10 g (acceleration)
Shock	40 g
Hydraulic Data	
Flow rate	10 ... 200 l/min
Operating pressure	20 bar max.
Fluid temperature range	-40 ... +85°C
Inlet / Outlet	Flange connection, SAE 4" according to ISO 6162-1
External Electrical Data	
Supply voltage	9 ... 36 V DC, residual ripple < 10%
Power consumption	5 W max.
Internal Electrical Data	
2 Configurable switching outputs (<i>n-switching Power MOSFET, normally-open</i>)	1 x Ferromagnetic particles (Fe) 1 x Non-ferromagnetic particles (nFe) or 1 x Ferromagnetic particles (Fe) + Non-ferromagnetic (nFe) 1 x Status signal
Alarm relays capacity	1.5 A max.
RS485 interface	2 wire, half duplex
HSI interface	1 wire, half duplex
Detection limits	
ferromagnetic (Fe) particles	200 µm (<i>particle, whose volume corresponds to a sphere with Ø 200 µm</i>)
non-ferromagnetic (Fe) particles	400 µm (<i>particle, whose volume corresponds to a sphere with Ø 400 µm</i>)
Max. particle count	100 / s at a pulse duration of 7 ms at the signal output

We do not guarantee the accuracy or completeness of this information. The information is based on average working conditions. For exceptional operating conditions please contact our technical department. All details are subject to technical changes.

Model Code

		MCS	1	5	1	0	- 5	- 0	/ 000
Series	_____								
MCS	=	Metallic Contamination Sensor							
Model	_____								
1	=	1000 Series							
Contamination Code	_____								
5	=	particles > 200 µm / 1"							
Options	_____								
1	=	Standard							
Fluids	_____								
0	=	Mineral and synthetic oils (particularly used in wind power industry)							
Hydraulic connection	_____								
5	=	Flange connection, SAE 4" according to ISO 6162-1							
Electrical Installation	_____								
0	=	Standard							
Modification number	_____								
000	=	Standard							

Scope of Delivery

- MCS 1000
- O-ring (47.22x3.53 NBR 70 Shore)
- O-ring (110.72x3.53 NBR 70 Shore)
- Operating and maintenance instructions

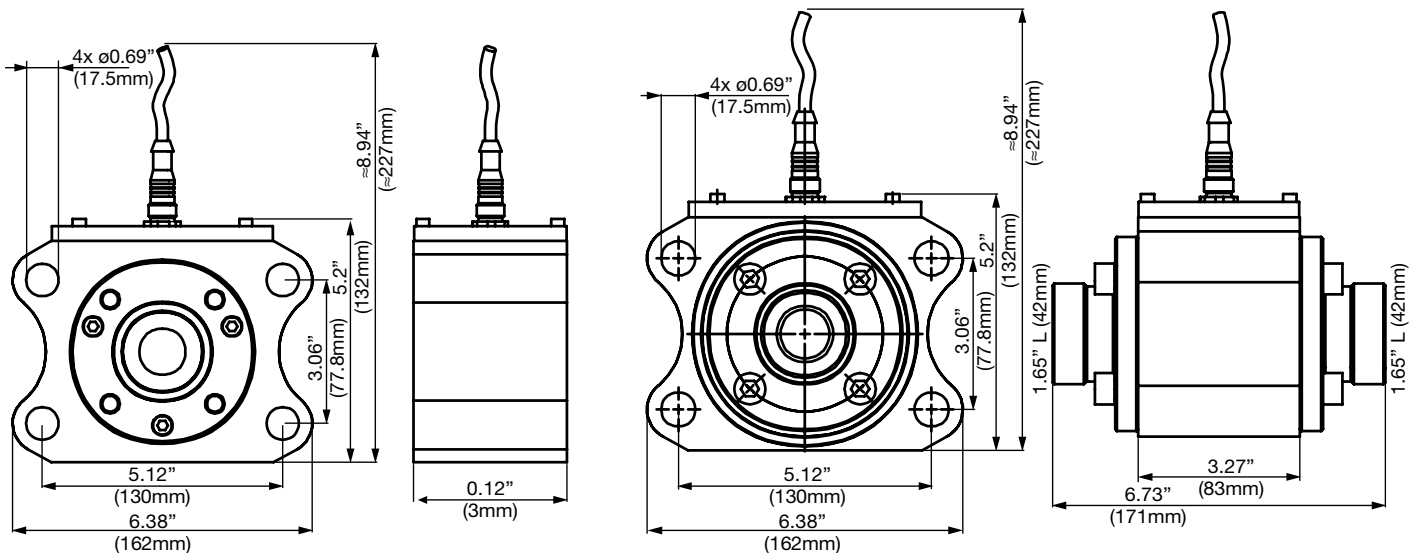
Accessories

- SAE 4" Flange adaptor set for pipe or hose connection, 42L according ISO 8431-1 Consisting of: 2x Flange adaptors, 2x O-rings, 8x Cylinder screws, 8x Washers, 8x Spring washers, P/N: 3435426
- Flange adaptor plate, SAE 4" – SAE 1½", P/N: 3442518
- Socket plug (female) with 2 m line, shielded, 8-pole, M12x1, P/N: 3281220
- Socket plug (female) with 5 m line, shielded, 8-pole, M12x1, P/N: 02702459
- Extension cable 5 m, Socket plug (female) 8-pole, M12x1 / Socket plug (male) 8-pole M12x1, P/N: 3281240
- Socket plug with screw clamp, 8-pole, M12x1, P/N: 3281243

Dimensions

Flange connection, SAE 4" according to ISO 6162-1

MCS with accessory flange adaptor set (optional)



Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print.