Real-time damage detection - anytime, anywhere.
MetalSCAN MS3000 oil debris sensor monitors metal particles generated from rotating equipment due to bearing and gear damage. Assess how much time you have to schedule maintenance before equipment failure occurs.

Application
MS3000 is designed to be easily installed in-line in the equipment lubrication system to detect the presence of metallic particles.

The sensor generates an electrical pulse signal for each metal particle above its minimum size threshold. The signal is designed to interface to a host, either a MetalSCAN series 3000 Communications Assembly (wireless GPRS or Ethernet), or directly to a monitoring or control system. The host increments a counter with each particle detected which is then compared to machinery condition indicators. The condition indicators are based upon simple criteria which establish whether the machine is healthy or not, and if not, how much damage there is, and how much longer the machine can be operated before equipment failure. All performed local to the host with no need for expensive expert analysis and consultations.

FEATURES
- 100% Detection of Fe and NFe metal particles
- Easy to install
- Easy to interpret
- Rugged, solid-state with no moving parts
- Full function continuous built-in test (BIT)
- Proven reliability in harsh machinery environments
- Low cost

BENEFITS
- Earliest reliable detection of component damage
- Monitor damage progression and estimate remaining life
- Avoid unplanned outages
- Avoid equipment secondary damage
ON-LINE OIL DEBRIS MONITOR

MS3301 SENSOR

PERFORMANCE

Sensor Bore ................................................................. 38 mm
Minimum Detectable Particle (sphere) ......................... 350 μm Fe / 1000 μm NFe
Minimum Detectable Particle (ESD)* ......................... 230 μm Fe / 600 μm NFe
Flow Rate ................................................................. 38 L/min - 1000 L/min
Maximum Particle Detection Rate ......................... configurable up to 100 particles/sec

* The Equivalent Spherical Diameter (ESD) of an irregular-shaped object is the diameter of a sphere of equivalent volume.

OUTPUTS

Particle Pulse:
  Shape ................................................................. square wave pulse
  Width ................................................................. ± 2 ms
  Amplitude ........................................................ Power Supply Voltage +0/- 2 VDC
  Load Impedance Required ...................................... ≥1 kΩ

Built-in Test:
  Shape ................................................................. HI or LO logic
  Fault State ........................................................ 0.0 VDC
  No Fault State .................................................. Power Supply Voltage +0/- 2 VDC
  Load Impedance Required ...................................... ≥1 kΩ

INPUT

Power Supply ............................................................... 18 to 30 VDC @ 6W (max)
  (250 mA @ 24 VDC)

ENVIRONMENT

Oil Pressure ............................................................... Maximum 20 bar (300 psi)
Oil Temperature ........................................................ 40°C to 85°C
Ambient Temperature ................................................ 40°C to 70°C
Vibration ................................................................. 10-50 Hz: 3 mm (displacement)
  50-300 Hz: 15 g (acceleration)
Fluids Compatibility ................................................ Hydraulic & lubrication oils; synthetic & mineral based; solvents & cleaning agents.

SENSOR

Model             Bore        Length       Height Width Weight Fluid Interface
Sensor - 3301 38 mm (1.5 in) 256 mm (10.1 in) 177 mm (7.0 in) 91 mm (3.6 in) 7.6 kg (16.8 lb) Installs between 3-bolt Vestas filter manifold and gearbox surfaces.

COMPLIANCE

- Conforms to ASTM D7917
- IP66

ACCESSORIES

1. Integral Electrical Connector
   (order: Cable 3008x)
2. MetalSCAN Series 3000 GPRS Communications Assembly
   (order: Alarm 3006x)
3. MetalSCAN Series 3000 Ethernet/Email Communications Assembly
   (order: Alarm 3009x)
4. Application adapter kits
   (contact Gastops with specific requirements)
5. Cable kits
   (contact Gastops with specific requirements)

ORDER NOW

MetalSCAN 3301 Sensor Module
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