MEL SYSTEMS
Machinery Extended Life

Oil Quality Sensor

Giving you a 360° view of your oil

- **Reliability : increases the reliability of equipment**
- **Efficiency : allows proactive maintenance planning**
- **Cost saving : reduces the amount of oil used and consequently reduces disposal costs**
- **Reduced carbon footprint: using less oil you not only save time and money but contribute to preserving the planet for future generations**

Mel Systems Oil Quality Sensor has been designed and developed to the highest standards. Delivering accurate real time monitoring of the condition of any lubricating oil. Based on a patented method the Quality Sensor gives you a true 360° view of how your oil is performing.

Key Features

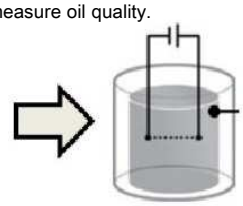
- Proven Technology based on a patented method which has been used for over 10 years
- The Oil Quality Sensor is on average over 60 times more sensitive
- Robust and reliable, designed and built to withstand the harshest of industrial environments. Resistant to impacts, high temperatures and vibrations
- It has obtained outstanding results, thanks to its unique performance, and has been tested directly on-site in a wide variety of applications, thanks to its unique performance
- Fully certified to International standards to work in most commercial and industrial environments

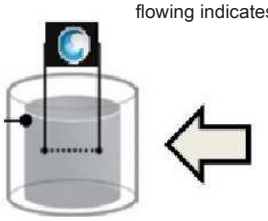
How it works

Dielectric sensors are traditionally used to measure oil quality.

DIELECTRIC SENSOR:

An AC electric voltage is applied across two electrodes, the change in current flowing indicates whether or not the oil is seriously degraded.





QUALITY SENSOR:

This device measures the capacitance and conductance of the oil which, when combined, give the measure of permittivity. This reading is on average 60 times more sensitive to the change in the quality of the oil with respect to the dielectric sensor.

Thanks to this sensitivity, the Quality Sensor is able to detect the very early stages of deterioration of the oil, allowing timely planning of any intervention.

Product Specifications

Physical
- Material: Stainless steel AISI304
- Dimensions - 90mm x 37mm (L x W)
- Weight – 160g

Power
- 9-30 V DC
- average power consumption = 0.4W
- power consumption = 30mA continuous

Analog output
- 4-20 mA

Digital output
- RS232: 9600 baud bi-directional
- RS485: 9600 baud half duplex
- Modbus protocol supported on RS232/RS485
- CANbus: CANopen protocol

Environmental
- Protection = IP67 when connected
- Operating temperature = -20°C - 120°C
- External pressure = 0 bar to 20 bar
- Fluid pressure = upto 20 bar
- Fluid type = any mineral, semi-synthetic or synthetic oil

Detection
- Oxidisation
- Contamination: water, dirt, metals, silicon, fuel and glycol
- TAN/TBN
- Viscosity breakdown
- Wear particles
- Oil temperature

Electrical connection
- 6 pin Lumberg

Mechanical connection
- M32 hex head
- 1/2" BSP thread
- DIN3869 ring seal or Dowty seal

Oil measurement
- OQIs = -2 - 21
- TDN = 1200 - 0
- Loss Factor: -20 - +42
- Accuracy: repeatability = ± 3%

Compliant to the following standards:
- BS EN 60068-2-30 (Test db – Cyclic humidity)
- BS EN 60068-2-6 (Test Fc – Sine vibration)
- BS EN 60068-2-27 (Test Ea- Mechanical Shock)
- EN 61000-6-4 : 2007 (Generic Emissions Standard for Industrial Environments)
- EN 61000-6-2 : 2005 (Generic Immunity Standard for Industrial Environments)

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