The Oil Quality Sensor (OQS) from RMF Systems puts you in control with real-time monitoring of oil quality and water ingress. Expensive oil changes are now based on oil condition, not on historical schedule.
Overview

The requirement to implement an effective monitoring and maintenance program for lubricants in critical plant machinery has never been greater. With the escalating price of crude oil and the vast improvements that are being seen in the quality of lubricants available today, it is more important than ever for organisations to ensure that they are maximising the service life of the oil used. Monitoring oil condition is clearly fundamental to understanding the optimal time to change. Change too early and the cost is significant, change too late and the costs can be even greater! The sensor is a live, highly flexible and cost effective condition based monitoring solution, designed to be permanently mounted within any lubrication system on any type of machine.

Oil Quality Display

The Oil Quality Display is a simple but powerful device which allows you to read the oil quality and temperature of the oil from a sensor without a PC.

This enables you to set up the display box on site and then be able to see the oil quality and temperature readings as required. Use an Android app to connect your Smartphone with the OQD smart via Bluetooth. With it being IP67 rated (when connected) you do not need to worry about the need to keep it in a dry place. Also with it being made from polycarbonate it is a strong durable product which cannot be damaged easily. The new ‘Rate of Change’ feature allows you to easily monitor the degradation of oil over a programmable period of time.

Benefits

1. Extended oil change intervals
2. Scheduled downtime intervals for increased productivity
3. Reduced waste oil cost
4. Improved equipment reliability
5. Low cost investment tool
6. Reduced carbon foot print

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ORDERING CODE

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OQS</td>
<td>Basic Configuration (CMS - Oil Quality Sensor)</td>
</tr>
<tr>
<td>1</td>
<td>Material case (1 - Stainless steel (standard))</td>
</tr>
<tr>
<td>08</td>
<td>Thread connection options (08 - G1/2&quot; BSP male thread)</td>
</tr>
<tr>
<td>0</td>
<td>Sealing options (0 - DIN 3852-11 Form E / ISO 1179-2 Viton (standard))</td>
</tr>
<tr>
<td>SC</td>
<td>Output connection options (SC - Straight circular connector Lumberg M16x0,75 (6-pin IP67) (standard))</td>
</tr>
<tr>
<td>4</td>
<td>Communication options (4 - Smart version - Protocol for RS485 2w / Modbus / Canbus / 4 - 20 mA)</td>
</tr>
</tbody>
</table>

Material case
- Stainless steel (standard)

Output connection options
- SC - Straight circular connector Lumberg M16x0,75 (6-pin IP67) (standard)
  - Note: the connector is not included in the supply

Communication options
- 4 - Smart version - Protocol for RS485 2w / Modbus / Canbus / 4 - 20 mA

Environmental
Strict schedule based maintenance programmes have several downsides. Environmental experts argue that the greatest of these is the preventable waste. The Oil Quality Sensor (OQS) real-time monitoring sensor makes extending the oil service life effortless.

Market leading
The Oil Quality Sensor (OQS) is 60 times more sensitive to oil degradation than any other dielectric constant measuring sensor.

Intelligent
The OQS measures the energy loss component of oil permittivity. All contaminants such as metallic particles, soot, water, oxidation, glycol and particularly burnt fuel dilution increase this measured value.

Universal
The sensors measures oil degradation in all industrial equipment, including:
- Diesel and petrol engines
- Compressors
- Industrial gear reducers
- Wind turbines
- Generator sets
- Hydraulic systems

“This truly is a revolution in oil condition monitoring. Until today, sensors could only give a very rough indication of oil condition. With our state of the art technology you know the exact condition of your oil at all times, so you know when to conduct a service”

Gerben Gerken
Managing Director RMF Systems

Accessories (order separately)
- OQD-S-1 - Display with data logger
- OQS CONFIGURATION KIT - USB communication cable with external power supply
- OQC-02-1 - OQS to OQD cable
- OQC-02-2 - OQS/OQD to bare ends cable
## Specifications

### OQS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>Stainless Steel AISI 304</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>90 mm x 37 mm</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>160 g</td>
</tr>
<tr>
<td><strong>Mechanical connection</strong></td>
<td>1/2” BSP Thread / M32 Hex thread</td>
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<tr>
<td><strong>Seals</strong></td>
<td>FPM</td>
</tr>
<tr>
<td><strong>Output connection</strong></td>
<td>6 pin Lumber Male (IEC 61076-2-106)</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>9 - 30 VDC</td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td>Average 0.4 W</td>
</tr>
<tr>
<td><strong>Analogue output</strong></td>
<td>2 x 4 - 20 mA (Current syncing, passive input)</td>
</tr>
<tr>
<td><strong>Digital output</strong></td>
<td>1xRS485: 9600 baud half duplex, Modbus protocol supported on RS485</td>
</tr>
<tr>
<td><strong>Fluid compatibility</strong></td>
<td>Synthetic or mineral oil - including fuel oils such as diesel and bio-diesel</td>
</tr>
<tr>
<td><strong>Fluid temperature</strong></td>
<td>-20° C to 120° C</td>
</tr>
<tr>
<td><strong>Fluid pressure</strong></td>
<td>Up to 20 bar</td>
</tr>
<tr>
<td><strong>Oil Quality Detection Parameters</strong></td>
<td>Frequency 15 per second</td>
</tr>
</tbody>
</table>

### OQD

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>Material</strong></td>
<td>Polycarbonate</td>
</tr>
<tr>
<td><strong>Dimensions (LxWxH)</strong></td>
<td>120 mm x 66 mm x 42 mm</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>225 g</td>
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<tr>
<td><strong>Mounting</strong></td>
<td>Integrated flanges</td>
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<tr>
<td><strong>Power</strong></td>
<td>9 - 30 VDC</td>
</tr>
<tr>
<td><strong>Average power consumption</strong></td>
<td>0.4 W</td>
</tr>
<tr>
<td><strong>Analog output</strong></td>
<td>4-20 mA</td>
</tr>
<tr>
<td><strong>Digital output</strong></td>
<td>RMF Systems protocol</td>
</tr>
<tr>
<td><strong>Bluetooth</strong></td>
<td>Low Energy</td>
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<tr>
<td><strong>Display</strong></td>
<td>Oil Quality</td>
</tr>
<tr>
<td></td>
<td>Oil Temperature</td>
</tr>
<tr>
<td></td>
<td>Rate of Change</td>
</tr>
<tr>
<td></td>
<td>Status indicator</td>
</tr>
<tr>
<td><strong>Temperature (Operating)</strong></td>
<td>-30° C to +65° C</td>
</tr>
<tr>
<td><strong>Temperature (Storage)</strong></td>
<td>-30° C to +70° C</td>
</tr>
<tr>
<td><strong>Connections</strong></td>
<td>M16 - 6 pins (IEC 61076-2-106) male, female</td>
</tr>
</tbody>
</table>
OQS Sample Case

THE WORLD’S MOST ADVANCED PORTABLE TEST KIT

OQS Sample Case is the world’s most advanced portable oil testing kit that enables accurate condition sample tests of any oil anywhere in seconds. From a small sample, advanced technology provides an instant readout of the oil’s precise condition.

The OQS Sample Case has been created to provide accurate oil testing in the field and can be used in any application where the use of oil is important to equipment reliability and efficiency.

SERVICE CENTRES
Make sure your equipment is operating with oil that is up to the job and reduce unnecessary wear and breakdowns.

ENGINE ROOMS
Take the guess work out of monitoring the state of oil in large engines such as ships.

MOBILE SERVICE CREWS
Ensure your equipment, from mobile generators, wind turbines to transformers, has the oil it needs to operate efficiently.

HOW IT WORKS

1. Take Sample
Take a small sample oil using one of the bottles provides.

2. Connect Sensor
Connect sensor to a PC running the monitoring program & select oil type.

3. Attach Sample
Screw sensor to the bottle & turn upside down so oil covers the sensor node.

4. Breeding
Oil condition statement provided in a clear easy to understand format.

OQS Sample Case contains:
► RMF Systems Oil Quality sensor
► 6x Sample bottles
► Adaptor
► USB Normalisation Cable
► Sampling software
► Oil database (included in software)
► Cleaning solvent*
► Instructions

* Not included if shipped via Air freight

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