TRITON OMD
Oil Mist Detection System

- Protection from damage and explosion
- Pipeless and suction free: in-situ detection
- ATEX version available
- Marine-classified through GL, LR, CCS and RMRS
**TRITON OMD**

**Oil Mist Detection**

The advanced HEINZMANN oil mist detection system is especially designed to meet the requirements of large diesel and gas engines, like ship or power plant engines.

Highly ignitable oil mist occurs when lubricants or fuel come in contact with hot surfaces, within the engine. This has become one of the most significant risks for engine operators and personnel. Therefore these systems are made mandatory by the IACS for vessel engines exceeding a certain size.

Oil mist concentration of 50 mg/l and higher is sufficient for an explosion to occur, resulting in large scale engine damage and in severe cases in the loss of lives.

The presence of oil mist inside the engine can also indicate a damage of sliding surfaces, because the lubricant film can vaporise in cases of excessive friction caused by wear.

TRITON protects the operating personnel and helps to prevent from severe engine damages.

**TRITON OMD Benefits**

- Pipeless and suction free: direct detection inside crankcase
- Continuous online monitoring
- Protection against splash oil contamination
- Measurement of oil mist temperature in each sensor
- Self-redundant measurement system
- Simple electrical installation requirement
- No moving parts
- Sensor replacement is possible at any time
- Minimising engine maintenance and service costs
- For diesel, gas and dual fuel engines
- Communication via CAN bus and Modbus
- Remote monitoring unit for long distance data transfer
TRITON OMD
SYSTEM COMPONENTS

Control unit
The control unit is designed to withstand the environment in the engine room. The vibration resistance of the unit allows installation directly on the engine. The electrical wiring interface is done by means of robust connectors with sealed metallic housings.

The control unit consists of a metallic case, a liquid crystal display (LCD), three LEDs (Alarm1, Alarm2 and Ready), four control keys and one reset button.

The electronics and the display of the control unit are installed in a closed, shock-proof, water, dust and EMC resistant aluminium case, protection class IP67.

The control unit can be mounted close to the engine or in the engine control room. It operates reliably at temperatures between 0 °C to 70 °C with a relative humidity up to 80 %.

Sensors
The OMD sensors have no moving parts and are therefore not subjected to wear and tear. The intelligent firmware avoids false alarms and consequently only allows oil mist occurrence to trigger an alarm.

The measuring unit for a compartment consists of a finger-shaped optical sensor with system redundancy, and a multiple chamber splash oil protection system, which prevents the sensor from being soiled with splash oil, but allows the oil mist to enter the sensor light beam. So, the reaction time of each sensor and the whole system is less than one second.

Functional description
The intelligent and sensitive sensor is designed to detect instantly any slight change of oil mist concentrations inside each engine compartment. A highly sophisticated protection design prevents the optical system from being impaired by splash oil contamination.

Additionally, the oil mist temperature inside each compartment is measured and continuously recorded.

The evaluator can process signals from up to a maximum of 16 intelligent sensors via the redundant serial bus system.

Technical data

<table>
<thead>
<tr>
<th></th>
<th>24 VDC + 30 % / -25 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>max. 1.5 A</td>
</tr>
<tr>
<td>Operating current</td>
<td>adjustable in 10 steps (0.2 - 10 mg/l)</td>
</tr>
<tr>
<td>Alarm level</td>
<td>3 isolated relay contacts:</td>
</tr>
<tr>
<td></td>
<td>- System ready</td>
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<tr>
<td></td>
<td>- Main alarm</td>
</tr>
<tr>
<td></td>
<td>- Pre-alarm</td>
</tr>
<tr>
<td>Outputs</td>
<td>RS485, Modbus, optional CAN bus</td>
</tr>
<tr>
<td>Data interface</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>0 - 70 °C for evaluator</td>
</tr>
<tr>
<td></td>
<td>0 - 85 °C for sensor electronics</td>
</tr>
<tr>
<td></td>
<td>0 - 120 °C for sensor measuring section</td>
</tr>
</tbody>
</table>
The HEINZMANN Group
Quality & Precision since 1897

The Group started 1897 with Heinzmann GmbH & Co. KG, and now includes REGULATEURS EUROPA, HEINZMANN DATA PROCESS and CPK Automotive as member companies.

The HEINZMANN Group boasts a combined total of fifteen global subsidiaries, including eight production sites and an international distributor network.

The product portfolio comprises engine management system solutions, as well as exhaust gas aftertreatment solutions, for industrial combustion engines and turbines; it also encompasses automation systems, primarily for the shipping industry.

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