



Certificate No:
TAA0000370

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Oil Mist Detection System

with type designation(s)
GDMS-OMDN09® and GDMS-OMD14®

Issued to

MSS AG
St. Wendel, Germany

is found to comply with
DNV rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Temperature	C
Humidity	B
Vibration	B
EMC	A
Enclosure	B

Issued at **Hamburg** on **2024-12-16**

This Certificate is valid until **2029-12-15**.

DNV local station: **Essen**

for **DNV**

Approval Engineer: **Dariusz Lesniewski**

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Frederik Tore Elter
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

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Product description

GDMS-OMDN09® Gear and Diesel engine Monitoring System - Oil Mist Detection Navy
GDMS-OMDN09® with GDMS-OMDN09®-Sensors and Remote Monitoring Unit for HFO/Diesel and Gas/DF operation
GDMS-OMDN09® Evaluator: connected with up to 16 intelligent GDMSOMDN09® Sensors / or OMDSE
0910EX/1001EX Sensors max. via the redundant serial bus system

GDMS-OMD14®

Advanced Oil Mist Detection System for large engines

GDMS-OMDN14® Evaluator connected up to 16 OMD 14 sensors via the redundant serial ring bus system

Power Supply: 24V DC

Operating Current: max. 1.5 A

Software Versions:

Firmware OMDN09 Sensor Version 3.01

Firmware OMDN09 Evaluator Version V1.10

GDMS-OMDN09® Evaluator:

Up to 16 GDMS-OMDN09 Sensors® can be connected

Sensitivity: Alarm level adjustable in 10 steps from 0,2mg/l to 10 mg/l

Relay-Outputs: Contact load for all relays max. 60V AC, 1A, 60VA / max. 60V DC, 1A, 60W

1. Relay with 2 ground-free switch-over contacts:

Main Alarm

2. Relay normally closed, opens if pre-alarm condition arises:

Pre-Alarm

3. Relay normally open, closes if system recognizes no fault conditions:

System ready

Wire break protection with 33 kOhm resistors (standard)

Serial Interface:

RS485 for standardized industrial, bidirectional communication

RS232 for setup and configuration

Communication Protocol: Modbus

CAN Bus (optional)

User interface: LCD Display 240*128 dots

1 LED green "System Ready"

1 LED red "Alarm"

1 LED yellow "Pre-alarm"

Connection cable: DNV type approved

OMDN09/EV (Evaluator) Part No. 2 020 10 0000 for Diesel+HFO / Gas+DF

OMDN09/RCEV (Remote Monitoring Unit) Part No. 2 020 00 0000 for Diesel+HFO / Gas+DF

OMDN-Se-0910 (OMD Sensor20) Part No. 2 600 01 1000 for Diesel+HFO

OMDN-Se-0910EX (OMD Sensor 20EX) Part No. 2 600 02 1000 for Diesel+HFO/ Gas+DF

OMDN-Se-1001 (OMD Sensor 16) Part No. 2 600 01 3000 for Diesel+HFO

OMDN-Se-1001EX (OMD Sensor 16EX) Part No. 2 600 02 3000 for Diesel+HFO / Gas+DF

SOPS 65 Part No. 2 600 01 2000 for Diesel+HFO

SOPS 65EX Part No. 2 600 02 2000 for Gas+DF

SOPS 53 Part No. 2 600 01 3000 for Diesel+HFO

SOPS 53EX Part No. 2 600 02 3000 for Gas+ DF

Diffusor 65 Part No. 2 600 01 4065 for Diesel+HFO / Gas+DF

Diffusor 53 Part No. 2 600 01 4053 for Diesel+HFO / Gas+DF

Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- Functional description
- System block diagram
- Power supply arrangement (may be part of the System block diagram)
- List of control and monitored points
- Circuit diagrams
- Test program for certification

The Type Approval covers (hardware and) software listed under Product description.

When the type approved software is revised (affecting all future deliveries) DNV is to be informed by forwarding updated software version documentation. If the changes are judged to affect functionality for which rule requirements apply a

new functional type test may be required and the certificate may have to be renewed to identify the new software version.

Product certificate

Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. After the certification the clause for application software control will be put into force.

Application software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE