

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Monitoring System

with type designation(s)

GMS-Mark4 System Unit, GMS-Mark4 Junction box / Sensors, GMS-Mark5 System Unit, GMS-Mark5 Junction box / Sensors

Issued to

Geislinger GmbH
Hallwang Salzburg, Austria

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

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

Type	Temperature	Humidity	Vibration	EMC	Enclosure
GMS-Mark4 System Unit	B	B	A	A	B (Panel front)
GMS-Mark4 Junction box / Sensors	B	B	B	A	B
GMS-Mark5 System Unit	B	B	A	A	B (Panel front)
GMS-Mark5 Junction box / Sensors	B	B	B	A	B

This Certificate is valid until **2021-12-12**.

Issued at **Hamburg** on **2016-12-13**

DNV GL local station: **Augsburg**

for **DNV GL**

Approval Engineer: **Didier Girardin**

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Duy Nam Le
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.

Job Id:
Certificate No: **TAA00000V9**

Product description

Geislinger monitoring system for engine torsional dampers. Including, but not limited to, monitoring of torsional vibration and misfiring detection.

GMS Mark4 consisting of:

- System unit
- Junction box
- Two digital sensors

GMS Mark5 consisting of:

- System unit
- Junction box "D3A2"
- Three digital and two analogue sensors

Application/Limitation

1. GMS Mark5 shall be powered from a power supply of approved type.

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Tests carried out

Applicable tests according to DNV Standard for Certification No. 2.4, April 2006.

Marking of product

Manufacturer: Geislinger GmbH, Hallwang, Austria
Model name: As listed under Product description
Serial number: Unique for each delivered item

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE