Certificate No:
TAA0000091

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Temperature Switch

with type designation(s)
JUMO EM-5/U and EMF-23

Issued to
JUMO GmbH & Co. KG
Fulda Hessen, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

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

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**B**
EMC	**Not relevant**
Enclosure	**Required protection according to DNV GL Rules shall be provided upon installation on board**

This Certificate is valid until **2021-01-13**.

Issued at **Hamburg** on **2016-01-14**

for **DNV GL**

DNV GL local station: **Essen**

Approval Engineer: **Dariusz Lesniewski**

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.

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Job Id: **262.1-004093-3**
Certificate No: **TAA0000091**

Product description

JUMO Panel-mounting Thermostats EM Series, comprising the following models:
EM-5/U and EMF-23

Application/Limitation

The Type Approval covers hardware listed under type designations. 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 Classification, Ships Pt.4 Ch.9 Control and monitoring systems.
Thermowells to be applied as required by DNV GL Rules

Type Approval documentation

Periodical assessment

The scope of the retention/renewal survey 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 survey 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

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE