DNV·GL

Certificate No:
TAA00001VR

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Level Switches

with type designation(s)
JUMO NESOS R03 LS (Type 408303 / 062)

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

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.

Temperature	**D**
Humidity	**B**
Vibration	**B**
EMC	**N/A**
Enclosure	**B (IP66)**

Issued at **Hamburg** on **2018-05-28**
This Certificate is valid until **2023-05-27**.
DNV GL local station: **Hamburg**

Approval Engineer: **Jens Dietrich**

for **DNV GL**

Joannis Papanuskas
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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Product description

Level Switch with measuring receptacle
Principle: Floating element with magnetic reed contact
Switch function (dry contact): SPST-NO/NC SPDT-CO
Switching voltage (max.): AC/DC 230V
Switching power (max.): 100VA/100W (NO/NC), 60VA/60W (CO)
Switching current (max.): 1,0A
Switching point accuracy: ±2mm
Mounting orientation (vertical): ±30°
Pressure range (nominal pressure) -1…+6bar.

Floating element material: Stainless steel AISI316 (type 044, 045) / Titanium (type 744);
Float tube: Stainless steel AISI316 type. Pipe coupling: Zinc coated steel,
Housing/connection box material: Aluminium (coated).

Ambient temperature range: -30°C….+95°C (Connector Housing),
Process medium temperature: -30°C…+150°C.

Application/Limitation

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 requirements in DNV GL RU SHIP Pt.4, Ch.9 and DNV GL Pt.4, Ch.6.

Tests carried out

Applicable tests according to class guideline DNV GL CG-0339, Nov. 2016.

Marking of product

Manufacturer, type designation, serial number.

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 this certificate.

END OF CERTIFICATE