

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Level Switches**with type designation(s)
UAD-LSB, LSA

Issued to

UAD Service + Vertriebs UG
Rostock, Germanyis 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 class:**

Type	Temperature	Humidity	Vibration	EMC	Enclosure
UAD-LSB	B	B	A	---	D
LSA	B	B	A / B	---	C / D

Issued at **Hamburg** on **2017-03-14**This Certificate is valid until **2021-01-18**.for **DNV GL**DNV GL local station: **Rostock**Approval Engineer: **Klaus-Peter Schröder**

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.



Product description

UAD-LSB: Level switch with/without test button and with connecting cable

UAD-LSB	with test button, cable 2m from above
UAD-LSB-U	with test button, cable 2m from bottom up
UAD-LSB-oP	without test button, cable 2m from above
UAD-LSB-oP-U	without test button, cable 2m from bottom up

Material housing	1.4571
Material floating ball	Buna N
Rated pressure floating ball	3bar
Switch type	Günther 1915, contact form C
Contact mode	1 - NO 2 - NC 3 - WE
Contact rating	1 - 250V AC/ 3.0A/ 100VA 2 - 250V AC/ 3.0A/ 100VA 3 - 250V AC/ 1.0A/ 60VA
Cable type	MPRXCX (standard length 2m, max. length 20m)

LSA: Float operated Magnetic Level Switch intended for the use in bilge and ballast tanks.

LSA1	with test button, without cable*
LSA2	with test button, with cable
LSA3	without test button, without cable*
LSA4	without test button, with cable

- With or without -g version (bended linkage of max 700mm length)
 - With or without -Exd version (see EC-Type Examination Certificate LSA...-Exd no. IBExU13ATEX1069 X)
 - With or without protection bellow (SB1, SB2)
- *Cable to be type approved

Material housing	RG5 or RG10
Material oval floating ball	1.4571
Pressure (max)	16 bar
Voltage (max)Contact rating	250V AC, 24V DC
Current (max)	6A 250V AC, 2A 24V DC

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 DNV GL RU SHIP Pt.4 Ch.9 Sec. 1.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Excertificate issued by a notified/recognized Certification Body.

Magnetic Level Switch: Types LSAX = Location class Vibration: B
 Types LSAX-g = Location class Vibration: A

UAD-LSB: Degree of protection: IP68 (11m) - cable gland covered with heat shrinking hose with glue.

LSAX: Degree of protection: IP56 / IP68 (11meter) cable version - cable gland covered with heat shrinking hose with glue.

Type Approval documentation

Job Id: **262.1-024992-1**
Certificate No: **TAA0000149**

Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, Edition November 2015.

Marking of product

The products to be marked with:

- manufacturer name
- type number
- 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 at least every second year and at renewal of this certificate.
END OF CERTIFICATE