



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAA000028S**  
Revision No:  
**3**

## This is to certify:

### That the Level Switches

with type designation(s)  
**UNS1000-S, UNS2000-S, UNS-S, UNS 90-S, BilgeGuard UNS**

Issued to

**Barksdale GmbH**  
**Reichelsheim (Wetterau), Hessen, Germany**

is found to comply with

**DNV 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.**

### Location classes:

<b>Temperature</b>	<b>B</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>A</b>
<b>EMC</b>	<b>N/A</b>
<b>Enclosure</b>	<b>specified in product description</b>

Issued at **Hamburg** on **2023-12-12**

for **DNV**

This Certificate is valid until **2024-03-05**.

DNV local station: **Augsburg**

Approval Engineer: **Heinz Scheffler**

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**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.

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.



## Product description

### Multi level switch UNS 1000-S-VA(-MS)/xx-KLSx-xxxx-Lx/X.x

xx: Mounting element (flange or other type)  
 KLSx: Electrical connection (KLS1, KLS2 or KS)  
 XXXX: Float type (BN25, BN18, BN18HV, VA27, VA44)  
 Lx: No. of switchpoints (L1 to L5)  
 X.x: Contact mode (n/o or n/c: 230V AC/DC, 2A, 40VA/W)  
 (c/o: 150V AC/100V DC, 0,2A, 3VA/W or 250V AC/DC, 1A, 60VA/W)  
 Max. length 1000mm with bracket(s) at max. 500mm spacing  
 Protection class: IP67

### Multi level switch UNS 2000(2100-Ex)-S-VA(-MS)/xx-KLSx-xxxx-Lx/X.x

xx: Mounting element (flange or other type)  
 KLSx: Electrical connection (KLS1, KLS2 or KS)  
 XXXX: Float type (BN30, VA52, VA80, VA44)  
 Lx: No. of switch points (L1 to L4)  
 X.x: Contact mode (n/o or n/c: 250V AC/DC, 3A, 100VA/W)  
 (c/o: 150V AC/100V DC, 0,2A, 3VA/W or 250V AC/DC, 1A, 60VA/W)  
 Max. length 1000mm with bracket(s) at max. 500mm spacing without slosh tube  
 Max. length 2000mm with bracket(s) at max. 1000mm spacing with slosh tube  
 Protection class: IP67

### Level switch with integrated temperature switch UNS 1000/2000-S-...-TP/TS/TKxx/x

TPxx/x = xx: 50 = +50°C, 55 = +55°C, ..., 90 = +90°C  
 /x: /1 = n/o or /2 = n/c  
 Tolerance = ±10 K, dead band = 20±10 K  
 Electrical rating: max. 12/24 V DC or max. 3 A  
 TSxx/x = xx: 60 = +60°C, 70 = +70°C or 80 = +80°C  
 /x: /1 = n/o or /2 = n/c  
 Tolerance = ±10 K, dead band = 30 ±15 K  
 Electr. rating: max. 230 V AC/DC or max. 1 A  
 TKxx/x = xx: 60 = +60°C, 65 = +65°C, ..., 85 = +85°C or 90 = +90°C  
 /x: /1 = n/o or /2 = n/c  
 Tolerance = ±10 K, dead band = 30±15 K  
 Electr. rating: max. 230 V AC or max. 1 A  
 Electrical connection: K, KS, ST2 Protection class: IP54  
 Electrical connection: PG, ST1 Protection class: IP65  
 Electrical connection: KLS1, KLS2, Kx4, Kx8 Protection class: IP67

### Level switch with integrated temperature sensor UNS 1000/2000-S-...-PT100/PT1000

Contact rating: n/o, n/c: 250 V DC/AC, 3A, 100W/VA  
 Protection class: IP67

### Level switch with dual float function UNS 1000/2000-S-...-DUAL

#### Bilge Level Switch UNS-VA/SB(x)-VA52/x (-UAD-LSB)

SB(x): SB: with test function  
 SB1: without test function  
 /x: Contact rating: /1: n/o: 250 V DC/AC, 3A, 100W/VA  
 /2: n/c: 250 V DC/AC, 3A, 100W/VA  
 /3: c/o: 140V AC/DC, 1A, 60W/VA  
 Protection class: IP67

#### Bilge Level Switch UNS-VA/SBx Bilge Guard

SBx: SB4: without test function  
 SB5: with test function  
 Contact rating: n/o or n/c: 230 V DC/AC, 2A, 40W/VA  
 Protection class: IP68 (2 days/20m)

#### Level switch with test device UNS 2000-S-MS/xx-TF

xx: Mounting element  
Contact rating: n/o or n/c: 250 V DC/AC, 3A, 100W/VA  
Protection class: IP65

#### Level switch UNS 90-S-VA/xx

xx: Mounting element  
Contact rating: n/o or n/c: 250 V DC/AC, 3A, 100W/VA  
c/o: 140V AC/DC, 1A, 60W/VA  
Protection class: IP67

#### Level switch UNS-S-VA(-MS)/xx-xxxx

xx: Mounting element  
xxxx: Float type (BN25, BN30, VA27, VA52)  
Protection class: IP 54

### Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, 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 Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

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 Ex-certificate issued by a notified / recognized Certification Body.

### Type Approval documentation

Data sheets: 923-1817-A, P23; 12/04 UNS US 04/1, P1 to 8/P17/P18; 923-1610 2008-03-01;  
923-1752, Rev.C; 923-1751, Rev. C; 923-1829, Rev. D; 923-1831, Rev. D; 923-1821, Rev. B; 923-1823, Rev. B; 905-0301, Rev.C; 905-0340  
Test reports: No. 8-09/95, PTB-cert.: Ex-95.D.2010; No. 4923/02, BFSV No. 4962/02, 4963/02, 5865/06;  
Pressure-Cert. 6 of 14.09.1995; No. P50-18-0091\_1-en, 2018-02-23  
Manual: Operation Instruction Level Switch Type UNS

### Tests carried out

Applicable tests according to DNV Class Guideline CG-0339, Edition August 2021.

### Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- 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 the certificate.

END OF CERTIFICATE