DNV·GL

Certificate No:
TAA000028S

TYPE APPROVAL CERTIFICATE

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, 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.

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**N/A**
Enclosure	**specified in product description**

Issued at **Hamburg** on **2019-05-14**
This Certificate is valid until **2024-03-05**.
DNV GL local station: **Augsburg**

Approval Engineer: **Holger Jansen**

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

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, 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)
Lx: No. of switchpoints (L1 to L5)
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, PG, ST1, ST2, 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

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 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.

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

Tests carried out

Applicable tests according to DNV GL Class Guideline CG0339, November 2016.

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