



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-13783**

This is to certify that the
Level Switches

with type designation(s)
UNS1000-S and UNS2000-S series

Issued to
Barksdale GmbH
REICHELSCHEIM, WETTERAU, Germany

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application
Location classes

Temperature	B
Humidity	B
Vibration	A
EMC	N/A
Enclosure	B

This Certificate is valid until **2018-06-30**.

Issued at **Høvik** on **2014-05-28**

DNV local station: **Essen CMC Southern Germany**

Approval Engineer: **Nils Jarem**



for **Det Norske Veritas AS**

Digitally Signed By: Sneen, Ståle

Location: DNV Høvik, Norway

Signing Date: 2014-05-28, on behalf of

Odd Magne Nesvåg
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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

Product description

Level Switches Series UNS1000-S and UNS2000-S series:

UNS1000-S-VA/me-KLSx-XXXX-Lx/X.x	UNS2000-S-VA/me-KLSx-XXXX-Lx/X.x
me= Mounting Element (flange or other type) KLSx= KLS1, KLS2 or KS XXXX= BN25, VA27 or VA44 Lx= L1 to L5 (number of switchpoints) X.x= contact mode	me= Mounting Element (flange or other type) KLSx= KLS1, KLS2 or KS XXXX= BN30, VA44, VA52 or VA80 Lx= L1 to L5 (number of switchpoints) X.x= contact mode
Contact mode: SPST (NO or NC) :230VAC/DC, 2A, 40VAW SPDT: 150VAC / 100V DC, 0,2A, 3 VAW	Contact mode: SPST (NO or NC) :250VAC/DC, 3A, 100VAW SPDT: 140V AC / DC, 1 A, 60 VAW

Approval conditions

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.

Application/Limitation

To limit vibration resonance amplification the following sensor lengths should be adhered to:

Type	Float type	Max. length without support	Max. free length between supports
UNS1000-S-VA....	BN25, VA27, VA44	20 cm	62 cm
UNS2000-S-VA....	VA44, VA52, VA80	23 cm	77 cm
	BN30	25 cm	

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 : Level Switches Series UNS-1000-S; 12 / 04 UNS US 04/1
Level Switches Series UNS-2000-S; 12 / 04 UNS US 04/1 = 923-1817
Manuals: Operating Instructions Level Switch Type UNS; 923-1940; 2013-03-04
Test reports: No. 8-09/95 dated 1995-10-05
No. 6622/09 dated 2009-03-31

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Marking of product

The products to be marked with model name, manufacturer name and 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