



MARINE DIVISION

Certificate number: 25242/A0 BV

File number: AP4212

Product code: 3891H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Barksdale GmbH
Reichelsheim - GERMANY

for the type of product

PRESSURE TRANSMITTERS / TRANSDUCERS

Pressure transmitter, switch and display unit
of type: UDS3-V3 and UAS3-V3

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 11 Jul 2016

For BUREAU VERITAS,

At BV HAMBURG, on 11 Jul 2011,

Dirk Hoepfner



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The UDS3-V3 series are pressure transmitter and switches with electronic display units with internal stainless steel diaphragm and the UAS3-V3 series are electronic display units for hydraulic and pneumatic applications.

Main data:

Power supply: 24V DC
 Display: LCD, 8-digit 14-segment, 20-segment bargraph
 Relay Outputs: 4x 120V DC/max. 120W, 250V AC/max. 1250VA
 Software version: V1.5
 Sensor element for UDS: Piezoresistive silicon measuring cell
 Analog Input for UAS: Plug connector according to DIN EN 175 301-803
 Electrical Connection: 14-pin screw terminal, plug-in type
 Degree of protection: IP65

Variants:

Type: UDS3 / a / b / c / d (acc. to document 922-1124)

a = Measuring Range:

Xmb - 0...Xmbar relativ (X = max. 1000 mbar)
 Xb - 0...Xbar relativ (X = max. 600 bar)
 XbA - 0...Xbar absolut (X = max. 10 bar)
 Xp - 0...Xpsi relativ (X = max. 9000 psi)
 XpA - 0...Xpsi absolut (X = max. 150 psi)
 Xmp - 0...XMPa relativ (X = max. 60 MPa)
 XmpA - 0...XMPa absolut (X = max. 1 MPa)

b = Analog Output:

420 - 4-20 mA
 0X - 0-X V (X = max. 10V => 010)
 NA - no analog out

c = Process Connection:

G1/4I - G 1/4" internal thread SS
 G1/4IP - G 1/4" internal thread SS for pasty media
 1/4NI - 1/4" NPT internal thread SS

d = Sealing:

F - FKM/FPM
 E - EPDM

Type: UAS3 / a / b (acc. to document 922-1125)

a = Analog Input:

420 - 4-20 mA
 0X - 0-X V (X = max. 10V => 010)

b = Analog Output:

420 - 4-20 mA
 0X - 0-X V (X = max. 10V => 010)
 NA - no analog out

2. DOCUMENTS AND DRAWINGS:

- Data sheets: 923-1476 Index: C, 923-1134 Index: B
 - 903-0450 dated 04.05.00, 903-0652 Rev. A dated 23.06.2008, 903-0653 dated 19.10.07
 - 915-0123 Rev. C dated 27.05.03, 918-0407 Rev. D dated 13.11.03, 921-0809 dated 13.03.2003
 - 921-0810 dated 13.03.2003, 921-0811 dated 07.03.2003, 921-0812 dated 05.05.2003, 921-0814 dated 13.03.2003
 - 922-1124 Rev. B dated 07.07.2011, 922-1125 dated 18.08.06

3. TEST REPORTS:

Institut für BFSV an der HAW Hamburg:

- UB 7003/10 dated 28 May 2010

ServiceForce.Com GmbH:

- 086_11E dated 2011-06-30

4. APPLICATION/LIMITATION:

- 4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.
4.2 - Approval valid for ships intended to be granted with the following additional class notations: AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.
4.3 - BUREAU VERITAS Environmental Category, EC Code: 33
4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zones.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above mentioned products are to be manufactured, examined and tested by **Barksdale GmbH** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.
5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **Barksdale GmbH** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.
5.3 - **Barksdale GmbH** has declared to Bureau Veritas that the types of product described in this certificate are manufactured at the following production site:

**Barksdale GmbH
Dorn-Assenheimer Str. 27
61203 - Reichelsheim
GERMANY**

- 5.4 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT:

- Maker's name or trade mark.
- Type and model number
- Date of manufacture and serial number.

7. OTHERS:

- 7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **Barksdale GmbH - GERMANY**, will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

*** END OF CERTIFICATE ***