



Marine & Offshore

Certificate number: 19459/C0 BV

File number: AP 3816

Product code: 3881H

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 CONTROLLERS

Pressure Switches

Type: KLM-... Series and 8000-... Series

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 33

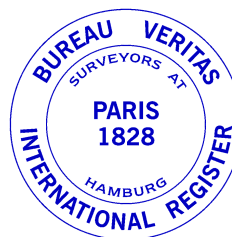
This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 10 May 2024

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 10 May 2019,

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 Marine & Offshore. 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 & Offshore 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 Marine & Offshore 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 electronic version is available at: <http://www.veristarp.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=el16piyojy>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

KLM- and **8000-** series are pressure switches.

1.1 - Main Characteristics:

	KLM- series	8000-series
Pressure range [bar]	0.5...1.5, 1.0...6.0, 5.0...25.0, 10...40(diaphragm type)	0.6...6.0 to 4.0...45.0 (diaphragm type) 5.0...180 to 80.0...600 (piston type)
Pressure connection	G1/4" male, M12x1.5 male, M18x1.5 male	Cetop flange, G1/4" female, 1/4"NPT female
Output	1 x C/NC/NO (silver or gold contacts)	1 x C/NC/NO (silver or gold contacts)
Housing material	Stainless steel	Aluminium or Stainless steel (option)
Ingress protection index	IP 65/67 (depending on electrical connection)	IP 65/67 (depending on electrical connection)

1.2 - Variants:

Type: **KLM - aaa - bb - cc - d - e**
(acc. to document 923-1524 Rev. E)

aaa = Pressure range:

001, 006, 025, 040

bb = Process connection:

M1, G1, M4

cc = Electrical connection:

Kx, S1, ST0

d = Micro switch:

1, 2

e = Diaphragm:

V, N, E

Type: **81 a b - ccc - d - ee**

(acc. to document 923-1295 Rev. I)

a = Pressure range:

1 to 6 or A to F

b = Micro switch:

1, 2

ccc = Electrical connection:

PL1, PL2, PL3, PL4, CA1, CA2, CA3

d - Seal:

B, N, E, V

ee - Options:

VA

2. DOCUMENTS AND DRAWINGS:

- 923-1295 Rev. M; 923-1524 Rev. F
- 923-1302 Rev. R dated 21.03.2018; 911-0111 Rev. B dated 08.06.15
- 922-1019 Rev. L dated 24.05.16; 922-1025 Rev. W dated 31.07.14
- 923-1304 Rev. T dated 04.08.17; 923-1612 Rev. D dated 14.07.09
- 922-0018 Rev. F dated 18.04.08; 908-0129 Rev. A dated 26.10.18
- 908-0260 Rev.C dated 30.10.18; 908-0415 Rev. A dated 29.10.18
- ISSeP 08 ATEX 016X dated 02.04.2008

3. TEST REPORTS:

BFSV:

- 5527_2/05 dated 08.02.2005; 5641a/05 dated 22.06.05

MPA Dresden :

- 20190078/01 and 20190078/02 dated 03.04.2019

4. APPLICATION / LIMITATION:

4.1 - Bureau Veritas Rules 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 - BV-Rules Part C, Ch 1, Sec 10 apply for pressurized parts made of aluminium or aluminium alloys if they are used in piping systems for flammable liquids or fire-extinguishing systems.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned products are to be supplied by **Barksdale GmbH** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **Barksdale GmbH** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

Barksdale GmbH
Dorn-Assenheimer Strasse 27
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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 trademark
- Date of manufacture and/ or serial number
- Equipment type or model identification
- Ex marking, as relevant

7.OTHERS:

7.1 - It is the responsibility of **Barksdale GmbH** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 19459/B0 BV issued on 17 Aug 2012 by the Society.

***** END OF CERTIFICATE *****