



MARINE DIVISION



Certificate number: 27840/A0 BV

File number: AP4286

Product code: 2643H

*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*

**Böning Automationstechnologie GmbH & Co. KG**

Ganderkesee - GERMANY

*for the type of product*

### CONTROL AUXILIARIES

Bow Thruster Control and Operation Units  
AHD 501 and AHD 502

#### 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: 28 Sep 2017**

For BUREAU VERITAS,

At BV HAMBURG, on 28 Sep 2012,

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](http://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 **AHD 501** and **AHD 502** are components for the control of bow thrusters.

A system contains one central unit AHD 501 and up to three operation units AHD 502.

#### **Main characteristics:**

	AHD 501	AHD 502
Mounting:	Unit on DIN rail	Panel in a cut-out of a cabinet or console
Power supply:	24V DC	24V DC
Inputs:	2x analogue (PTC) 2x analogue (0-2A AC) 16x digital	1x serial 1x digital
Outputs:	11x relay contacts (250V AC/ 1500VA) 2x relay contacts (250V AC/ 4000VA)	1x digital (24V DC or 250V AC/2A) 3x relay contacts (24V DC/6A)
Communication:	1x CAN-Bus 1x USB	3x CAN-Bus 1x RS422 galvanic isolated
Degree of protection:	IP 20	IP 56 (front), IP20 (rear)
Firmware Version:	V 1.6.1	V 1.13

### 2. DOCUMENTS AND DRAWINGS:

- Data sheet: PaB-1120 dated Jan 24, 2012
- Operating Instruction: DiV-1014 dated 2011-09-02; DiV-1069 dated 2010-05-25
- Drawings: 081009DD; 090102DD

### 3. TEST REPORTS:

#### **paconsult GmbH:**

- 09-2238 dated 13 February 2009
- 09-2334A dated 31 March 2009

#### **EMV Services GmbH & Co. KG:**

- 08/8175-2 dated Dec.18, 08

### 4. APPLICATION/LIMITATION:

- 4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.
- 4.2 - BUREAU VERITAS Environmental Category, **EC Code: 33** (AHD 501) and **EC Code: 41S** (AHD 502)
- 4.3 - Installation of operation units in sufficient visibility to each other.
- 4.4 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.
- 4.5 - Documents relating to each application are to be submitted to the Society's examination prior fitting on board.
- 4.6 - The above components are not intended to be used in Machinery Protection or Safety Related Systems. To be used for Category II Systems only.
- 4.7 - Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II Equipment.
- 4.8 - Only Hardware and Firmware / Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer is covered by this certificate.
- 4.9 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

### 5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above mentioned products are to be manufactured, examined and tested by **Böning Automationstechnologie GmbH & Co. KG** 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 **Böning Automationstechnologie GmbH & Co. KG** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 - **Böning Automationstechnologie GmbH & Co. KG** has declared to Bureau Veritas that the types of product described in this certificate are manufactured at the following production site:

**Böning Automationstechnologie GmbH & Co. KG**  
**Am Steenöver 4**  
**27777 Ganderkesee**  
**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.
- Date of manufacture and/or serial number
- Equipment type or model identification
- Alternatively, the marking may be presented on a display at equipment start-up.
- The title and version of each software element included in the installed software system shall be either marked or displayed on command on the equipment.
- When the marking and the title and version of the software are displayed only on the display, such information shall also be included in the equipment manual.

#### **7. OTHERS:**

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 **Böning Automationstechnologie GmbH & Co. KG - 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 \*\*\*