



MARINE DIVISION

Certificate number: 31047/A0 BV

File number: AP4500

Product code: 4201H

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

NORIS Automation GmbH
Rostock - GERMANY

for the type of product

ENGINE TELEGRAPHS

LS4, LSD4, LSN4, LT4 and LTD4 series

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: 23 May 2019

For BUREAU VERITAS,

At BV HAMBURG, on 23 May 2014,

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 LS4, LSD4, LSN4, LT4 and LTD4 series are control lever for single or twin propeller for mounting into a desk or console.

1.1 - Main characteristics:

Power supply: 24V DC
 Communication: 1x CAN bus; 1x CAN bus/RS232/RS485
 Inputs: 2x digital in; 1x scale illumination input (dimmer)
 Outputs: 2x analogue outputs 4...20mA
 Degree of protection: IP56 (front); IP10 (rear)

1.2 - Variants:

| Type | Description | Handle | I/O interface | Scale indication |
|----------|---|--------|---------------|------------------|
| LS4 | Single propeller shaft lever | 1 | 1 | 1 |
| LS4-ESS | Single propeller shaft lever with electrical shaft option | 1 | 1 | 1 |
| LSD4 | Twin propeller shaft lever | 2 | 2 | 2 |
| LSD4-ESS | Twin propeller shaft lever with electrical shaft option | 2 | 2 | 2 |
| LSN4 | Single propeller shaft lever for 2 demands | 2 | 1 | 2 |
| LSN4-ESS | Single propeller shaft lever 2 demands with electrical shaft option | 2 | 1 | 2 |
| LT4 | Single thruster control lever | 1 | 1 | 1 |
| LT4-ESS | Single thruster control lever with electrical shaft option | 1 | 1 | 1 |
| LTD4 | Twin thruster control lever | 2 | 2 | 2 |
| LTD4-ESS | Twin thruster control lever with electrical shaft option | 2 | 2 | 2 |

2. DOCUMENTS AND DRAWINGS:

- 092.004.03.118.A dated 11.02.2014; 092.004.03.119.A dated 11.02.2014; 092.004.03.120.A dated 11.02.2014;
 - 092.004.03.121.A dated 14.02.2014; 092.004.03.122.A dated 14.02.2014; 092.004.03.123.A dated 14.02.2014;
 - 092.004.03.124.A dated 05.03.2014; 092.004.03.125.A dated 11.03.2014; 092.004.03.410.A dated 24.02.2014;
 - 092.004.03.411.A dated 05.03.2014; 092.004.03.412.A dated 05.03.2014;
 - NAR-KD-0111-1-en Vers.1.17 dated 07.03.2014; SAR45 Rev. e dated 01.04.2012; SAR46-d dated 20.04.2012;
 - SAR60-e dated 04.07.12; SL45-e dated 27.06.2012; SL46-d dated 03.07.2012; SL60-e Version 1.02 dated 04.07.2012

3. TEST REPORTS:

TREO - Labor für Umweltsimulation GmbH: - 014-14 dated February 19, 2014; 018-14 dated March 28, 2014;
 - 026-14 dated February 19, 2014; 027-14 dated February 19, 2014; 255-13 dated November 13, 2013; 288-13 dated March 7, 2014

Teseq GmbH: - D/11/3863/09 dated 2012-11-19; D/11/3863/10 dated 2012-11-19

Noris Automation GmbH: - Salt mist LS4 2013_11_25_09_51_10; High voltage test dated 25.09.2012;

- NAR-PB-0111-1-en V.1.06 dated 2014-03-06; TTBMPI2-002_NAR Rev. 01 dated 13.11.2012

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: 41S.**

4.4 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.

4.5 - 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.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned products are to be supplied by **Noris Automation 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.

5.3 - **Noris Automation 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:

Noris Automation GmbH
Friedrich Barnewitz Strasse 10
18119 Rostock
GERMANY

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

6. MARKING OF PRODUCT:

- Maker's name or trademark.
- Equipment type or model identification.
- Date of manufacture and/or serial number.

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 Noris Automation GmbH - GERMANY, will accept full responsibility for informing shipbuilders, ship owners 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 *****