



Marine & Offshore

Certificate number: 31047/B0 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

EC Code: 41BS, 31BS

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: 18 Oct 2026

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 18 Oct 2021,

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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **LS4**, **LSN4**, **LSD4**, **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
 Degree of protection: IP56 (front); IP10 (rear)
 Software Version 2.00.00

Type Code: **a b c d e f g**

a	Base Type	LS4: Single lever LSN4: Double lever for two demands, handled by one signal processing electronic LSD4: Double lever for two demands, handled by separated signal processing electronic LT4: Single lever LTD4: Double lever for two demands, handled by separated signal processing electronic
b	Scale Orientation	FWD: Forward oriented installation AFT: Astern oriented installation
c	Scale Design	0-10 10-0-10 L0-10 / R10-0-10 (not applicable for LT/LTD type) L10-0-10 / R0-10 (not applicable for LT/LTD type)
d	Scale Subdesign	ORD1: Scale design with order steps
e	Signal Processing	E1: Signal processing electronic, 2 x CANbus, 2 x 4 ... 20 mA OUT, 2 x Digital IN, 1 x PWM IN, LED band E2: Signal processing electronic, 2 x CANbus, 1x RS-485 1 x Digital IN, 1x Digital OUT, 1 x PWM IN, LED band
f	Illumination	IL1: Scale with backlight and position indicator (for E1 and E2 only)
g	Options	ESS: Electrical shaft system (with E1 and E2 only) MLP: Mechanical lock points (not applicable with ESS option) MHL: Mechanical handle linkage (with MLP only)

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
 For B0 Version:
 - NAR-KD--0111-1-en Vers. 1.23 dated 27-11-19; NAR-PD-0111-51-en Vers. 1.00 dated 05/09/19;
 - SAR45-h dated 05.05.2017; SAR46-e dated 09.11.2017; SAR60-E dated 17.08.12; SAR86-e dated 22.05.17
 - 092.065.03.100.A, 092.065.03.101.A, 092.065.03.102.A, 092.065.03.104.A, 092.065.03.105.A, 092.065.03.106.A,
 092.065.03.107.A, 092.065.03.108.A, 092.065.03.109.A, 092.065.03.110.A, 092.065.03.111.A, 092.065.03.103.A dated
 11.09.2019

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.1.07 dated 2014-05-05; TTBM12-002_NAR Rev. 01 dated 13.11.2012
 For B0 Version:
 - AMETEK CTS Europe GmbH: D/20/4789/02; D/20/4789/03; D/20/4790/01 all dated 2021-05-12
 - TREO - Labor für Umweltsimulation GmbH: 114-17 dated 19-May-17; 173-19 dated 2019-07-05
 - Teseq GmbH: D/14/4269/01 dated 2015-11-10
 - TÜV Rheinland LGA Products GmbH: 21215783 001 dated 23.04.2014

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: 4IBS, 3IBS**

4.4 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7

4.5 - In accordance with IACS UR E22 and as applicable to programmable devices for computer based systems of Category II or III, for each ship application:

- Ship specific documentation is to be submitted including software documentation and categorization of the computer based system.

- Inspection and testing before installation onboard is to be performed under the surveillance of the Society.

4.6 - 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 and as such does not require a BV product certificate.

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**

6. MARKING OF PRODUCT:

- Maker's name or trademark.

- Equipment type or model identification.

- Date of manufacture and/or serial number.

7. OTHERS:

7.1 - It is the responsibility of **Noris Automation 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° 31047/A0 issued on 23 May 2014

*** END OF CERTIFICATE ***