



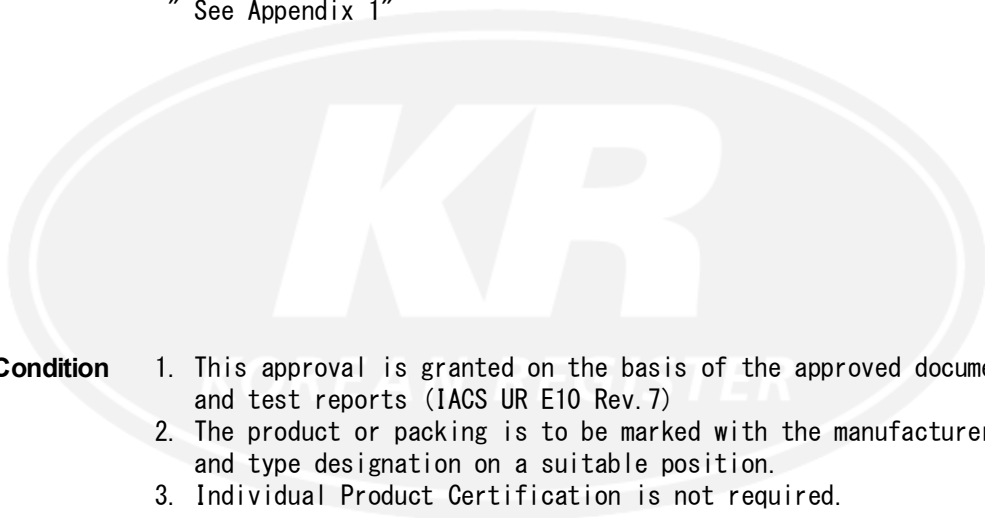
Type Approval Certificate

[Engine Telegraph System]

Initial Approval 23 June 2017
Manufacturer NORIS Automation GmbH
Friedrich-Barnewitz Strasse 10, D-18119 Rostock, Germany

Product Description Type : LA4, LS4, LSD4, LSN4, LT4 and LTD4 series

“ See Appendix 1”



- Approval Condition**
1. This approval is granted on the basis of the approved documentation and test reports (IACS UR E10 Rev.7)
 2. The product or packing is to be marked with the manufacturer’s name and type designation on a suitable position.
 3. Individual Product Certification is not required.

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships.

This Certificate is valid until 22 June 2027

Issued at Busan, Korea on 10 January 2023



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME23001225199) and certificate No.(HMB27973-AC005).



KOREAN REGISTER

*General Manager of
Marine & Ocean Equipment Team*

Note :

1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

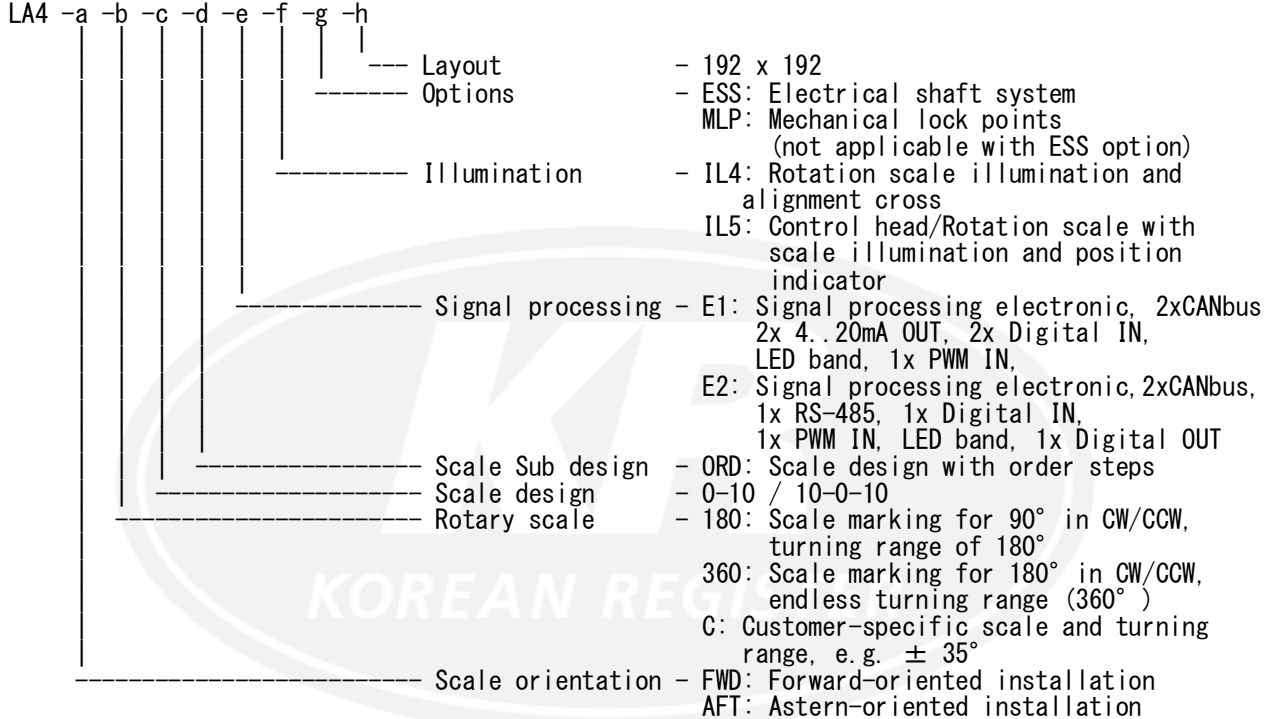
Product Description and/or Approval Condition

Date of Issue : 10 January 2023

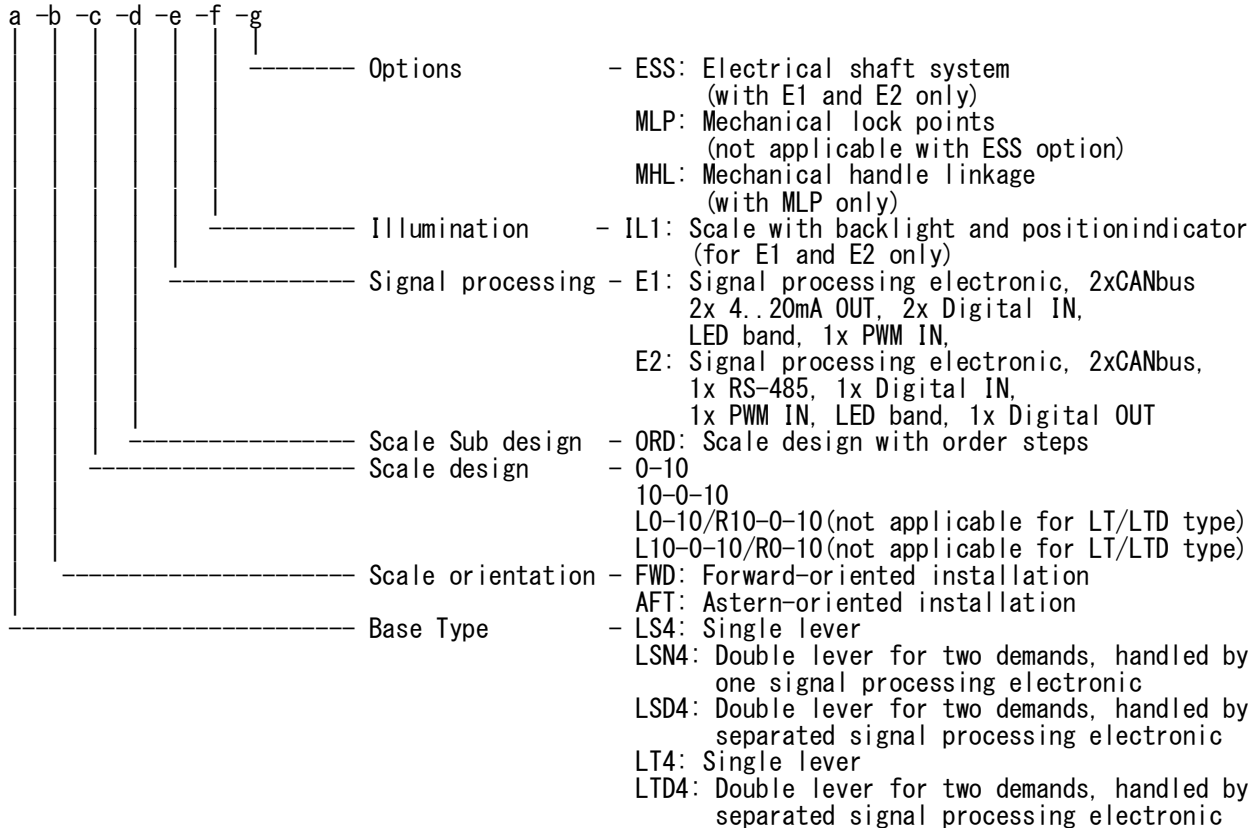
Product Description:

Model - LA4, LS4, LSD4, LSN4, LT4, and LTD4 series are control levers for single or twin propellers or thruster propellers.

<NNORISYS 4 LA4 Control Lever Azimuth>



<NORISYS 4 LS4, LSN4, LSD4, LT4 and LTD4 Control Lever>



Product Description and/or Approval Condition

Date of Issue : 10 January 2023

1. Main Characteristics

- Power supply : 24V DC
- Degree of protection : IP56 on the front side

2. Documents and Drawings

- Drawings : 092.037.03.100.A, 092.037.03.407.A, 092.004.03.118.A, 092.004.03.119.A,
092.004.03.120.A, 092.004.03.121.A, 092.004.03.122.A, 092.004.03.123.A,
092.004.03.124.A, 092.004.03.125.A, 092.004.03.410.A, 092.004.03.411.A,
092.004.03.412.A

092.065.03.100.B, 092.065.03.101.B, 092.065.03.102.B, 092.065.03.103.B,
092.065.03.104.B, 092.065.03.105.B, 092.065.03.106.B, 092.065.03.107.B,
092.065.03.108.B, 092.065.03.109.B, 092.065.03.110.B, 092.065.03.110.B,
092.065.03.112.B, 092.065.03.113.B, 092.065.03.114.B, 092.065.03.115.B,
092.065.03.116.B, 092.065.03.117.B, 092.065.03.118.B, 092.065.03.119.B,
092.017.03.102.B, 092.037.03.100.B, 092.037.03.400.A, 092.037.03.401.A,
092.037.03.402.A, 092.037.03.403.A, 092.037.03.404.A, 092.037.03.405.A,
092.037.03.406.A, 092.037.03.407.A, 092.037.03.408.A, 092.037.03.409.A,
092.037.03.410.A, 092.037.03.411.A, 092.037.03.412.A, 092.037.03.413.A,
092.037.03.414.A

SAR45-h_1A1, SAR45-h_2A1, SAR46-e_1A2, SAR46-e_2A2, SAR46-e_3A2,
SAR60-e_V106, SAR85-b_1A1, SAR86-e_1A2, SAR86-e_2A2, SAR88-b,
SAR88-d_1A2, SAR98-b_1A1

- NAR-KD-0111-1-en_V128_NORISYS_Control_Lever_System_Manual
- NAR-PD-0110-1-en_V103_NORISYS_4_Firmware_element_extensionbus_description
- NAR-PD-0111-1-en_V102_NORISYS_LS4_LA4_Hardware_Description
- NAR-PD-0111-2-en_V270_NORISTAR_LS4_LA4_Firmware_Description
- NAR-PD-0111-9-en_V101_NORISTAR_LA4_Product_FMEA
- NAR-PD-0111-8-en_V102_NORISTAR_LS4_Product_FMEA
- NAR-RaD-0002-1-de_V101_NORIS_Products_Rededication_List
- NAR-PD-0111-52-en_V211_NORISYS_4_Ledband_Firmware_Description
- Revision Outline : NAR-PD-0111-30-en_V100_SAR45_Hardware_Revision_Outline
NAR-PD-0111-31-en_V100_SAR86_Hardware_Revision_Outline
NAR-PD-0111-32-en_V101_SAR46_Hardware_Revision_Outline
NAR-PD-0111-33-en_V100_SAR85_Hardware_Revision_Outline
NAR-PD-0111-34-en_V101_SAR60_Hardware_Revision_Outline
NAR-PD-0111-35-en_V100_SAR88_Hardware_Revision_Outline
NAR-PD-0111-51-en_V103_NORISYS4_ControlLever_Firmware_Revision
NAR-PD-0111-53-en_V100_NORISYS4_Ledband_Firmware_Revision

2. Test Reports

NORIS Automation GmbH

- NAR-PB-0111-2-en_V1.06
- NAR-PB-0111-1-en Ver. 1.07, TTBMP12-002_NAR Ver. 01
- NAR-PB-0111-3-en Ver. 1.03 dated 2023-01-02
- NAR-PB-0111-06-en Ver. 1.01 dated 2021-05-27
- NAR-PB-0111-07-en Ver. 1.01 dated 2021-05-27

TREO - Labor für Umweltsimulation GmbH

- 019-14, 023-14 Ver. 2, 255-13, 288-13
- 014-14 Ver. 1, 018-14 Ver. 1, 026-14 Ver. 1,
027-14 Ver. 1, 255-13 Ver. 1, 288-13 Ver. 1
- 114-17 Ver. 1 dated 2017-05-19
- 173-19 Ver. 2 dated 2019-07-05

Teseq GmbH

- D/13/4085/11
- D/11/3863/09, D/11/3863/10
- D/14/4269/01 dated 2015-11-10

Product Description and/or Approval Condition

Date of Issue : 10 January 2023

TUV Rheinland
- 21215783 001

AMETEK CTS Europe GmbH
- D/20/4789/01 dated 2021-05-11
- D/20/4789/02 dated 2021-05-11
- D/20/4789/03 dated 2021-05-11
- D/20/4790/01 dated 2021-05-11

< End of Certificate >

