

TYPE APPROVAL CERTIFICATE

Certificate no.: TAA000028V Revision No: 2

This is to certify: that the Navigation Light Controllers

with type designation(s) Navigation Light Control System NLS 3000

issued to DECKMA-Decksmaschinen und Automation Vertriebsgesellschaft mit beschränkter Haftung

Rosengarten-Klecken, Niedersachsen, Germany

is found to comply with DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

TemperatureAHumidityBVibrationAEMCBEnclosureRequired protection according to DNV Rules shall be provided upon installation on board

Issued at Hamburg on 2024-03-01

This Certificate is valid until **2029-02-28**. DNV local unit:

Approval Engineer: Torsten Dzillak

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



for DNV



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Product description8 - 48 lanterns, bulb type or LED type Power supply 12VDC, 24VDC; 115VAC, 230VAC, 50/60Hz

consisting of: NLS 3000 MM01-E Main module NLS 3000 LM08-E/L lantern module 8-line NLS 3000 LM02-E/L lantern module 2-line NLS 3000 BK01-E conventional operator panel (mimic) NLS 3000 BG01-E graphically operator panel (touch screen) NLS 3000 VM01-E VDR module NLS 3000 MBM01-E interface module NLS 3000 DT01-E data module RS232 Terminal Adapter

Application/Limitation

Operation instruction of the manufacturer to be observed. Requirements as per MSC.253(83) have been recognized. The compatibility of the chosen navigation light type with regard to MSC.253(83) 5.4: has to be tested on board:

Power supply failure and failure, including short circuit and wire break of a lamp which is switched ON shall cause an alarm.

Type Approval documentation

"Technical documentation" dated 2024-03-01 EMV Services report 08/8159-1dated 2008-11-03 Paconsult report 08/2137 dated 2008-08-29 Elektronik Services report 081005 dated 2008-10-05 "Prüfprotokoll zur Anpassentwicklung LM08-L" Version 0.1 dated 2022-11-10 Laboratory Test Report 348-20 issue 1 dated 2020-11-27

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021

Marking of product

- The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or
 performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.



END OF CERTIFICATE

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