

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Navigation lights

with type designation(s)

L30001 UNL Universal Navigation Light UNL,
L30002 UNL-S Universal Navigation Light (Side-mounted)

Issued to

Optonaval GmbH
Hamburg, Germany

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2019/1397,**
item No. MED/6.1. COLREG 72 as amended, Annex I/14, IMO Res. A.694(17), IMO Res.
MSC.253(83)

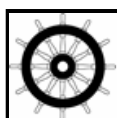
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-06-22.**

Issued at **Hamburg** on **2020-06-23**

DNV GL local station:
Hamburg CMC

Approval Engineer:
Didier Girardin



Notified Body
No.: **0098**

for **DNV GL SE**

Gerhard Aulbert
Head of Notified Body

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Product description

Product series:

L30001 UNL Universal Navigation Light UNL

L30002 UNL-S Universal Navigation Light (Side-mounted)

The Optonaval Universal Navigation Light represents a modular approach to the wide variety of Navigation Lights, whereby one common hardware and software basis fits all purposes of the different navigation light applications on board of a ship. With it's round shape, the light offers the best possible tightness. Different horizontal shaders and LED-Colors define the various light functions, which can be combined in a single housing. The UNL comes with a separate installation base to which the light unit is fixed by a bayonet catch, which allows a near tool-free installation and deinstallation. Most lights are built with fully separate redundant light elements, which switch over automatically in case need.

The UNL carries unique sensor capabilities which measure and record:

- Internal temperature
- Internal humidity (water tightness)
- Internal air pressure (gas tightness)
- Brightness of every LED (
- Electric flow to every light segment
- Operating hours

Reading these indicators, the light will report an upcoming malfunction long before it occurs and allows for maintenance according to a structured plan rather than emergency repairs.

The UNL is NVG (Night Vision) compatible.

See detailed product list in ANNEX

	standard compass	Steering compass
	33 cm	14 cm
		15 cm
	32 cm	19 cm

Application/Limitation

- Each product is to be supplied with its manual for installation, maintenance, and use.
- Electric LED navigation lights on vessels of 20 and more meter length, applicable for 24V voltages
- The navigation lights to be installed in accordance with COLREG 72 as amended and maker's instructions.
- The navigation lights of the Optonaval GmbH to be operated with a navigation light controller from Böning Automationstechnologie GmbH & Co. KG or Optonaval GmbH.
- For data transmission of the health status, Optonaval's Data Gathering Unit is required (already integrated in Optonaval's navigation light controller).
- For a correct functionality of the error detection of Böning's navigation light controller, the tripping current needs to be adjusted to a value of 100 mA.
- For EMC reasons, the connection cables need to be applied with Optonaval's UNL EMC filter if Böning's navigation light controller is used (already integrated in Optonaval's navigation light controller)
- Navigation lamp LED light sources shall not be removed and replaced. Navigation lamp shall be replaced integrally if needed.

Type Examination documentation

Tests carried out

EN 14744 :2005 incl. AC :2006,

EN 60945 :2002 incl. IEC 60945 Corr. 1 : 2008

COLREG 72, Annex I/14



Job Id: **344.1-010238-1**
Certificate No: **MEDB00006AV**

MSC.253(83)
IMO Res.A.694(17)

Marking of product

According to Article 10 of the Council Directive (MED) and including information required by the LSA
Code § 1.2.2.9 and § 1.2.3

Manufacturer name

Type identification

Serial number

Visibility of light in nautical miles

ANNEX
Type Examination documentation
Hidden

Product List

LED Navigation Lights Series UNL & UNL-S		
1	L30001-00-003	UNL - DOUBLE ANCHOR & DOUBLE MASTHEAD LIGHT 360°&225° - 3NM&6NM - WH - CBL BTM
2	L30001-00-004	UNL - DOUBLE ANCHOR & DOUBLE MASTHEAD LIGHT 360°&225° - 3NM&6NM - WH - CBL AFT
3	L30001-00-005	UNL - DOUBLE MASTHEAD LIGHT AFT 225° - 6NM - WH - CBL BTM
4	L30001-00-006	UNL - DOUBLE MASTHEAD LIGHT AFT 225° - 6NM - WH - CBL AFT
5	L30001-00-007	UNL - DOUBLE SIDELIGHT 112.5° - 3NM - GN - CBL BTM
6	L30001-00-008	UNL - DOUBLE SIDELIGHT 112.5° - 3NM - GN - CBL AFT
7	L30001-00-009	UNL - DOUBLE SIDELIGHT 112.5° - 3NM - RD - CBL BTM
8	L30001-00-010	UNL - DOUBLE SIDELIGHT 112.5° - 3NM - RD - CBL AFT
9	L30001-00-011	UNL - STOP LIGHT 135° - 3NM - RD - CBL BTM
10	L30001-00-012	UNL - STOP LIGHT 135° - 3NM - RD - CBL AFT
11	L30001-00-013	UNL - DOUBLE ANCHOR & DOUBLE STERN LIGHT 360°&135° - 3NM - WH - CBL BTM
12	L30001-00-014	UNL - DOUBLE ANCHOR & DOUBLE STERN LIGHT 360°&135° - 3NM - WH - CBL AFT
13	L30001-00-023	UNL - DOUBLE STERN LIGHT & SUEZ STOP LIGHT 135° - 3NM - WH&RD - CBL BTM
14	L30001-00-024	UNL - DOUBLE STERN LIGHT & SUEZ STOP LIGHT 135° - 3NM - WH&RD - CBL AFT
15	L30001-00-025	UNL - DOUBLE ANCHOR 360° - 3NM - WH - CBL BTM
16	L30001-00-026	UNL - DOUBLE ANCHOR 360° - 3NM - WH - CBL AFT
17	L30001-00-027	UNL - DOUBLE STERN LIGHT 135° - 3NM - WH - CBL BTM
18	L30001-00-028	UNL - DOUBLE STERN LIGHT 135° - 3NM - WH - CBL AFT
19	L30001-00-043	UNL - DOUBLE NOK LIGHT 360° - 2NM - GN - CBL BTM
20	L30001-00-044	UNL - DOUBLE NOK LIGHT 360° - 2NM - GN - CBL AFT
21	L30002-00-001	UNL-S - DOUBLE SIDELIGHT 112.5° - 3NM - GN
22	L30002-00-002	UNL-S - DOUBLE SIDELIGHT 112.5° - 3NM - RD