EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00006ME

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV 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)
CXHL Series Navigation Light

Issued to
Zhejiang Hule Electric Equipment Manufacture Co., Ltd.
Jiaxing, **China**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2020/1170,**
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 **2026-04-27**.

Issued at **Hamburg** on **2021-04-28**

DNV local station:
Shanghai

Approval Engineer:
Didier Girardin

Notified Body
No.: **0098**

for **DNV SE**

Christine Mydlak-Roeder
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 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 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.

Product description

CXHL Series LED Navigation Light, Type: CXHL(1/2/3/4/6)-1(B); CXHL(1/2/3/4/6)-2 (B).
see detailed product list in ANNEX.

Notes:
CXH(x0)-(x1)(x2):
(x1) =1: Single layer
(x1) =2: Double layer
(x2) =Ø: AC 230V, 6 / 20W
(x2) =B: AC 115V, 6 / 20W

In accordance to maker's documentation, photosensitive detectors were installed for triangular shaped group LED illuminants. CXHL Series LED Navigation Lights provide a failure signal by measuring the voltage of the photosensitive detectors. Failure will be detected in case of:

- LED Group no lighting failure
- Electric flow to light segment

Failure detection procedure were described in manufacturer instruction manual, Ref. No.: AME3.944.417/418 SM, edition A05, dated on 2021-03-24.

for AC115~230 V operation.

	standard compass	Steering compass
AC230V, 20W	95cm	85cm
AC230V, 6W	75cm	65cm
AC115V, 20W	95cm	90cm

As stipulated in the manual for installation, the minimum safe compass distance of navigation lights is 1 meter.

Application/Limitation

- Each product is to be supplied with its manual for installation, maintenance, and use.
- The navigation lights to be installed in accordance with COLREG 72 as amended and maker's instructions.
- Navigation lamp LED light sources shall not be removed and replaced but replaced integrally if needed.
- The controller (NLP) is to provide an indication of failure for each individual installed light once the runtime has surpassed the documented lifetime as specified in the installation manual, Ref. No.: AME3.944.417/418 SM, edition A05, dated on 2021-03-24, Page 9~10.
- Thereafter, upon indication, the whole navigation light is to be replaced [with reference to MSC.253(83)].
- The controller is to provide an indication of failure for each individual installed light based on described interfaces and voltage levels (tripping voltage) as specified in the installation manual, Ref. No.: AME3.944.417/418 SM, edition A05, dated on 2021-03-24, page 10~11.

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
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

Product List

CXHL Series LED Navigation Lights Series

Starboard light, Green, AC230V 2x6W, 112.5°	3nm