DNV·GL

Certificate No:
TAA00001XM

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Navigation Light Controllers

with type designation(s)
KOC-LCP-01

Issued to
KOC Electric Co., Ltd.
Busan, Republic of Korea

is found to comply with
IMO Res.MSC.253(83) Performance standards for navigation lights, navigation light controllers and associated equipment
IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids
IMO Resolution MSC 191(79)
IMO Resolution MSC.302(87) Performance standards for Bridge Alert Management
DNV GL 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 GL.

Issued at **Busan** on **2018-08-23**
This Certificate is valid until **2023-08-22**.
DNV GL local station: **Gimhae Station**

Approval Engineer: **Geun Young Park**

for **DNV GL**

Michael Jost Auf der Stroth
Head of Section

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.

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Job Id: **262.1-012045-3**
Certificate No: **TAA00001XM**

Product description

KOC-NLC-01, navigation light controller, consists of following components

Components	Software Version	Location
Navigation Light Control Panel	KOC-LCP-205-1.x	Protected
Navigation Light Relay Box	KOC-LCP-205-2.x	Protected
NUC Light Relay Box	KOC-LCP-205-3.x	Protected

Application/Limitation

- A noise filer and a ferrite core shall be installed for AC and DC power cable input line.
- Cables for each navigation lights shall be used with shielded type.
- The controller shall be installed in accordance with manufacturer's document.

Type Approval documentation

DNVGL No.	Document No.	Rev. No.	Title
10	KOC-LCP-01-RE	-	Navigation lighting controller test report
11	KOC-LCP-01-MA	1	Installation, Use and Maintenance Manual
14	R12NR-031	-	Environmental Test Report
15	E12OR-010	-	Electromagnetic Compatibility Test Report
16	-	-	NAVIGATION LIGHT CONTROL PANEL_Alert list
17	-	-	NAVIGATION LIGHT CONTROL PANEL_COMMUNICATION DATA
18	KOC-LCP-02-RE	-	Navigation lighting controller test report

Tests carried out

- IEC60945 (2002)
- IEC61162-1(2016)
- IEC62288 (2014)
- IMO Resolution MSC.253(83)
- DNVGL Rule (2018 Jan.) Pt.4 Ch.8 Sec.2

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

Periodical assessment

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.
The scope of the periodical/renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.