Marine & Offshore

Certificate number: 56366/C0 BV
File number: AP4830
Product code: 2811H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to
MARINELEC TECHNOLOGIES
QUIMPER - FRANCE

for the type of product
NAVIGATION LIGHT COMPONENTS
NORMA navigation light Controller

Requirements:
BUREAU VERITAS Rules for the Classification of Steel Ships.
IMO Resolution MSC.253(83).
IEC 60092-504 (2016).

NORMA BAM:
IMO MSC302(87).
IEC 62923-1 (2018).
IEC 62923-2 (2018).
IEC 61162-1 (2024).

EC code : 31B.

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 12 Jun 2029

For Bureau Veritas Marine & Offshore,
At BV SAINT-NAZAIRE, on 12 Jun 2024,
Francois LOPINOT

This certificate was created electronically and is valid without signature

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

- Product description:

NORMA is a navigation lights control & alarm system which allows monitoring and controlling up to 48 navigation lights.

- Product model or type designation :

NORMA product range: **NORMA.PWR, NORMA.CPU, NORMA_CP, NORMA.AFF.**

NORMA.CPU always needs to be associated with a power management module: **NORMA.PWR,** according to the type of power supply (**NORMA.PWR_AC** or **NORMA.PWR_DC**), and also a display device (**NORMA.AFF**, **NORMA.CP**)

The accessories NORMA.NPL, NORMA.NPC_F, NORMA.NP2L delivered with NORMA product.

- **NORMA BAM** (Optional):

Bridge Alert Management (BAM) functionality is implemented on the **NORMA** through the high brightness range of the NORMA.AFF (10", 15" and 21") with a communication module NORMA_EXT_RS422 plugged at the back of the touch screen

1.1 - Main Characteristics:

Configuration max	Up to 48 navigation lights, up to 6 NORMA.CPU
Compatible light	Filament (24VDC / 24VAC / 115VAC / 230VAC up to 60W) LEDs navigation lights (24VDC)
Display devices	NORMA.CP NORMA.AFF10P(HB): 10" Touch screen panel - HMI (HB High Brightness) NORMA.AFF15P: 15" Touch screen panel - HMI NORMA.AFF21P: 21" Touch screen panel - HMI
Power max	200W (NORMA.CPU)
Communication	RS485 (between modules only)
Digital inputs	1 x control power supply (24VDC) 3 x push Button 3 x switch input 8 x navigation lights control inputs
Digital outputs	8 x navigation lights outputs 8 x navigation light status indication outputs 4 x relay outputs 4 x signaling outputs
Power supply	NORMA.PWR_DC : -25/+30% 24VDC NORMA.PWR_AC: ±10%, 50-60Hz 230VAC NORMA_CP : -25/+30% 24VDC from NORMA.CPU NORMA_AFF: -25/+30% 24VDC
Ingress protection	NORMA_CP: IP44 NORMA_AFF: IP66 (front), IP20 (rear)

1.2 - Software Version:

NORMA.CPU_AC/DC	: 3.0
NORMA_CP	: 2.0
NORMA_AFF	: NORMA_AFF_XX_BAM_1.0

2. DOCUMENTS AND DRAWINGS :

- Navigation lights controller drawings, No. NORMA.ELEC Rev0, dated 13/09/2018.
- NORMA product specifications, No. NORMA.FP GB Rev0, dated 30/11/2018.
- NORMA.CPU Modbus Manual, No. NORMA.CPU_MODBUS_MANUAL_REV0, dated 04/12/2018.
- NORMA.CPU Installation & User Manual, No. NORMA.CPU_USER_MANUAL_EN_REV0.4, dated 06/12/2018.
- NORMA_CP Installation & User Manual, No. NORMA_CP_MANU GB rev1, dated 24/02/2012.
- NORMA Procedure d'essais, No. NORMA_TEST_SPECIFICATION_FR rev0.1, dated 28/01/2019.
- NORMA Software Design Documentation, No. NORMA_SOFT-DESIGN_DOCUMENTAION rev03, dated 28/03/2019.
- NORMA.AFF Installation and User Manual, No. NORMA_AFF_USER_MANUAL_EN_REV2.3, dated 03/05/2024.
- NORMA Bridge Alert Management Manual, No. NORMA.CPU_BAM_MANUAL_EN_REV0.1, dated 10/05/2024.
- NORMA Bridge Alert Management Conformity, No. NORMA._BAM_CONFORMITY_EN_REV0.5, dated 10/05/2024.
- NORMA BAM conformity Test Plan, No. NORMA._BAM CONFORMITY-TEST PLAN REV0.1, dated 28/03/2024.

3. TEST REPORTS :
EMITECH:
- Mechanical test report, No. R240-BNN-18-104895-1/A, dated 13/11/2018.
- Climatic test report, No. R240-BNN-18-104895-2/A, dated 13/11/2018.
- EMC test report, No. R530-18-104241-1-A Ed 02, dated 19/02/2019.
MARINELEC:
- Tests Fonctionnels, No. NORMA.TESTS_FONCTIONNELS_BV_REV_0.2, dated 12/03/2019.
- NORMA. Navigation lights controller BAM conformity test report Rev0.2, witnessed on 16/05/2024.

4. APPLICATION / LIMITATION :
4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.
4.2 - BUREAU VERITAS Environmental Category, **EC Code: 31B.**
4.3 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.
4.4 - Only Hardware and Firmware / Software successfully tested together in compliance with the rules and regulations as referred to in cover page, according to the declaration of the manufacturer are covered by this certificate.
4.5 - Any modification of the hardware, firmware or software having an impact on the product performance or functionality has to be validated with type testing.
4.6 - The installation shall comply with the Manufacturer's recommendation described in documentations.
4.7- Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 8.
4.8 - BAM option is only available on NORMA system which use high brightness NORMA.AFF and plugged with NORMA_EXT_RS422.

5. PRODUCTION SURVEY REQUIREMENTS :
5.1 - The NORMA are to be supplied by **MARINELEC TECHNOLOGIES** in compliance with the type described in this certificate.
5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
5.3 - **MARINELEC TECHNOLOGIES** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
5.4 - For information, **MARINELEC TECHNOLOGIES** has declared to Bureau Veritas the following production site(s):
<div align="center">

MARINELEC TECHNOLOGIES
13 Rue Alfred Le Bars
29000 Quimper
FRANCE

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6. MARKING OF PRODUCT :
- Manufacturer's name and Trademark,
- Type and model number,
- Date of manufacture and serial number

7. OTHERS :
7.1 - It is **MARINELEC TECHNOLOGIES**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
7.2 - This certificate supersedes the Type Approval Certificate No. 56366/B0 BV issued on 08 Apr 2024 by the Society.

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*** END OF CERTIFICATE ***

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