

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Navigation Light Controllers

with type designation(s)
PB-NLCP-SA

Issued to

Peters & Bey GmbH
Reinbek, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

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

Renewal of

Temperature B

Humidity B

Vibration A

EMC B

Enclosure Required protection according to DNV GL Rules shall be provided upon installation on board

Issued at **Hamburg** on **2017-11-07**

This Certificate is valid until **2022-11-06**.

for **DNV GL**

DNV GL local station: **Hamburg**

Approval Engineer: **Didier Girardin**

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Joannis Papanuskas
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.



Product description

Hardware

Panel Computer HD 13T21 PBC E1C-PABA
Panel Computer HD 08T21 PBC-E1C-PABA
Multiplexer Magicplex 8 GIC pro
Light Control Unit PB-NLCP

Operating voltage: 12 / 24V DC, 115 / 230 VAC
Power supply: 24 VDC
Measuring range: 1 mA – 1024 mA
Maximum output: 64 circuits – Subsequent extension of < 64 outputs

SW Versions:

LightControl Software Version 13-25022017
LightControl Firmware Version 3-0.30_ligthcontrol

Integrated Signal Automat according to the COLREGs 1972

Application/Limitation

Control system shall only be connected to lights required in COLREG and signal lights required by various canal and water way authorities. LED output modules are to be connected to LED lights that fulfil the requirements stated in product Installation and User Manual:

Compliance is confirmed for following Navigation Lights Type 400, 420, 500, 760, 580 LED, 780 LED (see MED B Certificate MEDB00001SD), 650, 678 LED, 658 LED.

Approval conditions

software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV GL for evaluation and approval before implemented on board.

When the type approved software is revised (affecting all future deliveries) DNV GL is to be informed by forwarding updated software version documentation. If the changes are judged to affect functionality for which rule requirements apply a new functional type test may be required and the certificate may have to be renewed to identify the new software version.

Tests carried out

- Applicable tests according to class guideline DNVGL-CG-0339, November 2016
- Environmental Tests, IEC 60945 (2002)

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 supply voltage.

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



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Certificate No: **TAA00001GK**

- 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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE