DNV·GL

Certificate No:
TAA00001CK

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Navigation Light Controllers

with type designation(s)
Aqua Signal Control System (ASC) 34255xxxxx / 34355xxxxx Vers. AS4

Issued to
Glamox Production GmbH & Co. KG
Bremen, Germany

is found to comply with
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.

Type	Temperature	Humidity	Vibration	EMC	Enclosure [1)]
Aqua Signal Control System (ASC)	**A**	**B**	**A**	**B**	

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

Issued at **Hamburg** on **2018-02-06**
This Certificate is valid until **2023-02-05**.
DNV GL local station: **Bremerhaven**

Approval Engineer: **Didier Girardin**

for **DNV GL**

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.

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Product description

Navigation light controller
Type Aqua Signal Control System (ASC)

Navigation light controller modular components:

	Modules	Description	Channels	A/N
[1]	Control Panel	Operation and Monitoring Unit	3x16 2x16 1x16	8342556600 8342556400 8342556200
[2]	Main/Stand by Switch Module Switch Module (short)	Nav. Lamp connection	8+8 4+4	8342550400 8342554800 8342555000
[3]	Main only Switch Module Switch Module (short)	Nav. Lamp connection	8 4	8342551600 8342554900 8342555100
[4]	Mains Select Module	Redundant power supply	2	8342551200 8342555200

Navigation light control system consisting of:
Any combination of single components mentioned above up to 8x 16 circuits
Power supply (LED or standard bulbs), main and standby 24VDC, 115VAC, 230VAC
Option: electrical control devices may be served from additional external back- up supply

Optional:
The Control Panel can be replaced by any type approved touchscreen in combination with type approved SPS unit based on type WAGO PFC100

Functionalities:

- Designed for incandescent or LED navigation lights with integrated lifetime shut off
- Lamp failure monitoring according EN 14744 § 4.10.1 for color and luminosity
- Manual emergency control of single monitoring relay outputs
- Independent power supply (Main / Emergency) with manual or automatic switch over
- Control Panels include Dimmer and LED test push buttons for Panel's LED indicators
- System fault indication
- Alarm acknowlegding button
- Serial interfaces

Application/Limitation

Operation instruction manual of the manufacturer to be observed.
The control system shall only be connected to lights required in COLREG and signal lights required by various canal and water way authorities.

- All parts of the system are to be installed in navigational bridge and be easy accessible for repair and maintenance.
- Control system shall only be connected to lights required in COLREG, and signal lights required by various canal and water way authorities
- Switch modules are to be connected to LED lights that fulfil the requirements stated in product instruction and User Manual.
- The Module must be mounted in such a way that it can be reached without using tools in order to fulfill class requirements.

Type Approval documentation

See ANNEX

Tests carried out

Applicable tests according to

- Class Guideline DNVGL-CG-0339, November 2016.
- IMO Resolution MSC.253(83)

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number

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
- 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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

ANNEX

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