

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Monitoring System**with type designation(s)
Binary Alert System NAS24Issued to
sm electrics GmbH services & more
Stakendorf, Germanyis found to comply with
DNV GL rules for classification – High speed and light craft
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.****Location classes:**

Temperature	B
Humidity	B
Vibration	A
EMC	A/B*
Enclosure	Required protection according to DNVGL Rules shall be provided upon installation on board

***see Application/Limitation**Issued at **Hamburg** on **2019-11-05**for **DNV GL**This Certificate is valid until **2024-11-04**.DNV GL local station: **Hamburg**Approval Engineer: **Jan Reinecke**

Arne Schaarmann
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

The Binary Alert System NAS24 consists of the following components:

- Operating Panel NAS24-M02, Software Vers. NAS_24_190522
- Control Unit NAS24-M01, Software Vers. NAS_24_190522

Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- System block diagram
- Power supply arrangement (may be part of the System block diagram)

Product certificate

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation onboard and witnessed by attending DNV GL surveyor. After the successful testing the clause for software control will be put into force.

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. Certification of modified functionality may be required for the particular vessel.

Application/Limitation

EMC class B: only with filter type Epcos B84113C.

24 V power supply lines are to be protected by Dehn Blitzductor, order no. 918 402

Type Approval documentation

DNV GL No	Document Id.	Rev.	Description
11	FAT-NAS24-20190923	20190923	Report: FAT Protocoll 20190923
9	no.1035	2019-10-21	BSH, Compass Safe Distance Certificate
8	NAS24_user_manual_20191101	20191101	Manual: Binary Alert System NAS 24, user manual

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

For the bridge mounted components the 'Compass safe distance' was measured according to section 11.2 of IEC 60945, 4th edition (2002).

Components type approved with following certificates: SIMATIC S7: TAA000000K; HMI Panel KTP700 Basic: TAA000016S

Job Id: **262.1-031848-1**
Certificate No: **TAA00002HS**

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- Compass safe distance
- power supply ratings

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