DNV·GL

Certificate No:
MEDB00003DW

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Bridge Navigational Watch Alarm System (BNWAS)

with type designation(s)
ARINE-BNWAS

Issued to
SAN Engineering Co.,Ltd.
Seongnam-si, Gyeonggi-do, Republic of Korea

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773,**
item No. MED/4.57. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res. A.694(17), IMO Res. MSC.128(75), IMO Res. MSC.191(79), IMO Res. MSC.302(87), IMO MSC.1/Circ.1474

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-12-02**.

Issued at **Høvik** on **2018-12-03**

DNV GL local station:
Seoul

Approval Engineer:
Geun Young Park

Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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Job Id: **344.1-007592-1**
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Product description

The BNWAS, ARINE-BNWAS, consists of following modules:

Module	Model Name	Location	Software
Main Unit	RAP-20	Protected	V1.0.X.X (Remote alarm panel) V2.X.X (Configurator)
External Interface Unit	EXU-20	Protected	-
Buzzer Unit	ALU-20	Protected	-
Motion Detector	IMD-20		-
Reset Switch Unit	RSU-20	Protected	-
	RSU-20W (watertight type)	Exposed	-
Reset Switch and Buzzer Unit	RBU-20	Protected	-
	RBU-20W (watertight type)	Exposed	-
I/O modules (option)	HCP	Protected	V2.0.X.X
	DIP	Protected	V2.0.X.X
	DOP	Protected	V2.0.X.X

Application/Limitation

- Installation is to be performed according to the manufacturer's manual.
- ARINE-BNWAS may fulfil the additional DNV GL class notations for BNWAS in DNVGL-RU-SHIP Pt.6 Ch.3 Sec.3 (2018 July), depending on system configuration and installation.
- Additional dimming facility shall be provided for RSU-20W and RBU-20W.

Type Examination documentation

Tests carried out

- Performance testing: IEC 62616 (2010) incl. Corrigendum 1 (2012)
- Serial interface testing: IEC 61162-1 (2010) and IEC 61162-1 (2016)
- Presentation of navigation information: IEC 62288 (2014)
- Environmental testing: IEC 60945 (2002) inc. Corrigendum 1 (2008)
- Performance testing: DNV GL Rules Pt.6 Ch.3 Sec.3 (Edition 2018-07)

Marking of product

The type designation and name and contact address of the manufacturer shall be affixed visibly, legibly and indelibly to the product. In addition the product shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.