

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2014/93/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Bridge Navigational Watch Alarm System (BNWAS)

with type designation(s)
BR-500

Issued to
Furuno Electric Co., Ltd.
Nishinomiya Hyogo Pref, Japan

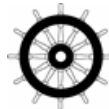
is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/4.57 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation V/18, IMO Res. A.694(17), MSC.128(75) & 191(79) IMO Resolution MSC.302(87) Performance standards for Bridge Alert Management

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

This Certificate is valid until **2021-04-25**.

Issued at **Høvik** on **2016-04-26**

DNV GL local station:
Kobe



for **DNV GL AS**

Approval Engineer:
Olaf Gundersrud

Notified Body
No.: **0575**

Vidar Dolonen
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 Council Directive 96/98/EC, as amended.

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.

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.

Product description

The BR-500 BNWAS encompasses:

Unit	Location
Main alarm panel/processor unit	Protected
Timer reset device(s)	Protected/exposed
Cabin panel(s)	Protected

For details, see Appendix.

Application/Limitation

- The BR-500 shall be powered from the ship's main power supply. Additionally 24 VDC power supply with capacity of at least 6 hours shall be provided.
- The interconnection with a Central Alert Management system for transfer of unacknowledged alarms is via contact closure.
- The installation of the system shall be undertaken in accordance with manual OME-44610-F6 (or later version).
- The system may comply with DNVGL rules for Nautical Safety. The actual configuration and interfacing with associated equipment is subject to case-by-case approval.

Type Examination documentation

See Appendix

Tests carried out

- IEC60945(2002) including Corrigendum 1 (2008)
- IEC61162-1(2010)
- IEC62288(2014)
- IEC62616(2010)

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location and in addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

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Product description

The BR-500, Bridge Navigational Watch Alarm System, consists of the following components:

Unit	Name	Loation/comment
Main Alarm Panel	BR-510	<i>Protected</i>
Processor Unit	BR-520	<i>Protected</i>
Timer Reset Panel	BR-530	<i>Protected</i>
Cabin Panel	BR-540	<i>Protected</i>
Watertight Timer Reset Panel	BR-550	<i>Exposed</i>
Motion Detector (reset device)*	BR-560	<i>Protected (*optional)</i>
Flash Beacon	BR-570	<i>Protected</i>
<i>Software versions</i>	2450056-02.xx	<i>Processor</i>
	2450060-02.xx	<i>Alarm panel</i>

Type Examination documentation

- DNV type approval testing report, Doc No.: K24-17-290-3
- Test Report, Doc No.: FLI12-10-042
- Test Report, Doc No.: K24-17-293
- Operator's Manual, Doc No.: OME-44610-F6
- Test Report Prepared for Green Mountain Electromagnetics, Doc. No.: TR-305203-11I, Rev.0
- Environmental Test Report, Doc. No.: GM211064E
- Special Purpose Test Report, Doc No.: GM211065x
- Safety Test Report, Doc. No.: GM211063s
- EMC Test Report, Doc. No.: GM211062c
- DNV type approval testing report, Doc No.: K24-17-440-1
- Test Report, Doc No.: FLI12-12-057
- DNVGL type approval testing report: K24-17-670-2
- DNVGL type approval testing report IEC62288 Ed.2: K24-17-692-1