

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 Transmitting heading device THD (GNSS method)

with type designation(s)
GS-100

Issued to

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

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2017/306**,
item No. MED/4.41. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.116(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)

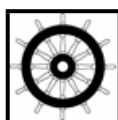
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2019-07-10**.

Issued at **Høvik** on **2018-01-18**

DNV GL local station:
Kobe

Approval Engineer:
Frederik Tore Elter



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



Job Id: **344.1-004085-2**
Certificate No: **MEDB000039H**

Product description

The GS-100 THD comprises the following components:

Unit	Model Name	Remark
Antenna unit	GS-1001	
Display unit	GS-1002	<i>Incl. 4 serial ports and 1 LAN port</i>
Junction box	GS-1003	
Interface unit*	IF-2503	<i>*option</i>

For latest revision of the Appendix, see <http://exchange.dnv.com/tari>

Application/Limitation

The GS-100 equipment shall be installed in compliance with the installation instructions of Pub. No. OME-72790-Z2 (see appendix).

Note: The GS-100 is examined and found to comply with the standards for interconnection with a Bridge Alarm Management System; IMO resolution MSC.302(87) "Bridge Alarm Management" and IEC 61924-2 "Modular structure for INS", Annex K and Annex M.

Type Examination documentation

DNV No. ¹⁾	Document No.	Document Title
19	OME-72790-Z6	Operator's manual - satellite speed log
16	CW-041	waver of the corrosion test
15	FLI12-13-124	Test report - IEC60945 emc
14	FLI12-13-125	Test report - IEC60945 tests other than emc
13	FLI12-13-138	Test report - IEC61162-1/2
12	FLI12-13-139	Test report - IEC61162-450
11	FLI12-13-143	Test report - IEC60945
10	FLI12-13-145	Test report - IEC62288 Ed.2 CDV
9	FLI12-13-146	Compass safe distance test report
8	K20-17-828	DNV type approval testing report
7	K20-17-977	Testing report of measurement data -ISO22090-3
6	K20-17-973	Testing report of static error test

¹⁾The document numbers refer to file 344.1-004055

Job Id: **344.1-004085-2**
Certificate No: **MEDB000039H**

Tests carried out

- Performance - ISO22090-3(2014)
- Serial Interface - IEC61162-1(2010)
- Serial Interface - IEC61162-2(1998)
- LAN Interface - IEC61162-450(2011)
- Presentation - IEC62288(2014)
- Environmental - IEC60945(2002)

Marking of product

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