

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB000039H
Revision No:
1

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

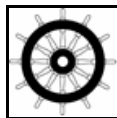
is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773**,
item No. MED/4.41. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.116(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)

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

This Certificate is valid until **2023-09-19**.

Issued at **Høvik** on **2018-09-20**

DNV GL local station:
Kobe



for **DNV GL AS**

Approval Engineer:
Olaf Gundersrud

Notified Body
No.: **0575**

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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: **344.1-004085-3**
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Product description

The GS-100 THD comprises the following components:

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

Application/Limitation

The GS-100 equipment shall be configured as THD and installed in compliance with the instructions of Pub. No. OME-72790-H (or later revision).

Type Examination documentation

NPS No.	Document No.	Rev.	Document Title
27	K20-17-973	2014	Testing report of static error test (ISO22090-3 clause 6.4)
26	K20-17-977		Testing report of measurement data (ISO22090-3 & IEC61023)
25	K20-17-828		DNV type approval testing report
24	FLI12-13-146		Compass safe distance test report
23	FLI12-13-145		IEC62288 Ed.2
21	FLI12-13-139		IEC61162-450
20	FLI12-13-138		IEC61162-1/2
19	FLI12-13-125		IEC60945
18	FLI12-13-124		IEC60945 EMC
15	K20-17-1502		DNV type approval testing report for pending items
14	K20-17-1478	2018	Testing report of Static error tests (ISO22090-3 Clause 6.4)
12	K20-17-1442		Test of update of antenna unit GS-1001
11	OME-72790-G11		Operator's manual GS-100
8	LIC12-17-116		IEC60945: EMC test report
7	LIC12-17-115		IEC60945: Environment test report
6	LIC12-17-114		IEC60945: EMC test report
5	LIC12-17-113		IEC60945: CSD test report

Tests carried out

- Performance - ISO22090-3(2014)
- Serial Interface - IEC61162-1(2016)
- 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.