EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB000039H
Revision no.:
6

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 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, **Japan**

is found to comply with the Implementing Regulation **(EU) 2024/1975** for
Item no. **MED/4.41** (Row **2 of 2**)
according to the following requirements:
SOLAS 74 Reg. V/19, IMO Res. A.694(17), IMO Res. MSC.116(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87), SOLAS 74 Reg. V/18, SOLAS 74 Reg. X/3, IMO Res. MSC.36(63)-(1994 HSC Code) 13, IMO Res. MSC.97(73)-(2000 HSC Code) 13

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

Date of issue: **2025-08-12**

Expiry date: **2028-01-29**

DNV local unit:
Japan CMC

Approval Engineer:
Steinar Kristensen

Notified Body
no.: **0575**

for **DNV AS**

Digitally Signed By:
Christine Mydlak-Röder

Christine Mydlak-Röder
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment signed 17 October 2005, and amended by Decision No 1/2023 dated August 21st, 2023.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees (“DNV”) arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

Please see Appendix: Product Description

Application/Limitation

- The GS-100 equipment shall be configured as THD and installed in compliance with the instructions of Pub. No. OME-72790-P21 (or later version).
- The GS-100 has been tested for Cyber Security requirements according to DNV CS SP1 (Essential) (incorporating IACS UR E27 Ed. Sept. 2023). Cyber secure installation shall be according to DNV Type Approval Certificate TAA00003MX.

Type Examination documentation

Please see Appendix: Type Examination Documentation

Tests carried out

- Performance: ISO 22090-3 (2014)
- Serial Interface: IEC 61162-1 (2016)
- Serial Interface: IEC 61162-2 (1998)
- LAN Interface : IEC 61162-450 (2018)
- Presentation: IEC 62288 (2021)
- Environmental: IEC 60945 (2002)
- BAM: IEC 62923-1 (2018) and IEC 62923-2 (2018)

Marking of product

The name and contact address of the manufacturer and type designation of the product is to be affixed to the equipment 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.

APPENDIX

Type Examination documentation

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Document No.	Rev.	Title
LIC 12-17-113	2017-10-23	Report: Labotech, GS-1001: CSD test report
LIC 12-17-114	2017-10-23	Report: Labotech, GS-1001: EMC test report
LIC 12-17-115	2017-10-23	Report: Labotech, GS-1001: Environmental test report
LIC 12-17-116	2017-10-23	Report: Labotech, GS-1001: EMC test report
K20-17-1442	2014-03-07	Report: Labotech, Test report - IEC 60945 for GS-100 Satellite Speed Log
K20-17-1478	2018-03-23	Report: Furuno, GS-100: ISO 22090-3 Static error test
K20-17-1502	2018-06-06	Report: Furuno, Type approval testing report for pending items
FLI 12-13-124	2014-02-17	Report: Labotech, Test report - IEC 60945 EMC for GS-100 Satellite Speed Log
FLI 12-13-125	2014-02-17	Report: Labotech, Test report - IEC 60945 environmental tests other than EMC for GS-100 Satellite Speed Log
FLI 12-13-138	2014-03-13	Report: Labotech, Test report - IEC 61162-1/-2 for GS-100 Satellite Speed Log
FLI 12-13-139	2014-03-12	Report: Labotech, Test report - IEC 61162-450 for GS-100 Satellite Speed Log
FLI 12-13-145	2014-03-14	Report: Labotech, Test report - IEC 62288 Ed.2 CDV for GS-100 Satellite Speed Log
FLI 12-13-146	2014-02-17	Report: Labotech, Compass safe distance test report for GS-100 Satellite Speed Log
K20-17-828	2014-01-18	Report: Furuno, DNV type approval testing report
K20-17-977	2014-01-16	Report: Furuno, Testing report of measurement data, ISO 22090-3 & IEC 61023
K20-17-973	2014-01-14	Report: Furuno, Testing report of static error test
LIC 12-20-064	2020-05-29	Report: Labotech, IEC 60945: 2002 (ed. 4), Clause 11.2, - Furuno INTERFACE UNIT IF-2550
LIC 12-20-065	2020-05-29	Report: Labotech, IEC 60945: 2002 (ed. 4), Clause 7.2,11.1 and 12.2, - Furuno INTERFACE UNIT IF-2550
LIC 12-20-066	2020-05-29	Report: Labotech, IEC 60945: 2002 (ed. 4), Clause 8.7, - Furuno INTERFACE UNIT IF-2550
LIC 12-20-095	2020-07-07	Report: Labotech, IEC 60945: 2002 (ed. 4), Clause 9.2, 9.3, 10.3, 10.4, 10.5, 10.8 and 10.9, - Furuno INTERFACE UNIT IF-2550
LIC 12-20-096	2020-08-04	Report: Labotech. IEC 60945: 2002 (ed. 4), Clause 7.1, 8.2, 8.3 and 8.4 - Furuno INTERFACE UNIT IF-2550
LIC 12-20-097	2020-08-04	Report: Labotech IEC 60945: 2002 (ed. 4), Clause 6, 13, 14 and 15, - Furuno INTERFACE UNIT IF-2550
LIC 12-20-098	2020-05-29	Report: Labotech, IEC 61162-1 and IEC 61162-2 - Furuno INTERFACE UNIT IF-2550
LIC 01-20-021	2020-08-04	Report: Labotech, Reference document for IEC 61162-1 -2 - Furuno INTERFACE UNIT IF-2550
C72-02001-Z20	Z20	Manual: Furuno, Installation Guide Interface Unit Model IF-2550
K20-17-1663	2021-03-08	Report: Furuno, IEC 62923 - Testing Report of Bridge Alert Management for GS-100 Satellite Speed Log
K20-17-1662	2021-03-08	Report: Furuno, DNV type approval testing report for GS-100, Update for IEC62923, IEC61162-450

LIC 01-20-039	2020-11-27	Report: Labotech, Reference document for IEC 61162-450 test performed by LIC
LIC 12-20-179	2020-11-27	Report: Labotech, IEC 61162-450 Furuno Model: SATELLITE SPEED LOG Type: GS-100
LIC 12-21-046	2021-07-02	Report: Labotech, Reference document for IEC 61162-1/-2
LIC 12-21-081	2021-07-02	Report: Labotech, IEC 60945 (EMC), Test Report Model: SATELLITE SPEEDLOG, Type: GS-1002
LIC 12-21-082	2021-07-02	Report: Labotech, IEC 60945 (CSD), Test Report Model: SATELLITE SPEEDLOG, Type: GS-1002
LIC 12-21-083	2021-07-02	Report: Labotech, IEC 60945 5 (Temp., Vibration), Test Report Model: SATELLITE SPEEDLOG, Type: GS-1002
LIC 12-21-084	2021-07-02	Report: Labotech, IEC 61162-1/-2, Test Report Model: SATELLITE SPEEDLOG, Type: GS-1002
LIC 12-22-044	2022-04-21	Report: Labotech, IEC 60945 test report for GNSS Antenna Unit GPA-022S
LIC 12-24-141	2025-01-22	Report: Labotech, IEC 62288 (2021) test report for GS-100 Satellite Speedlog
OME-72790-P21	P21	Manual: Furuno, Operator's Manual for GS-100 Satellite Speed Log

APPENDIX

Product Description

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The GS-100 THD comprises the following components:

Unit	Model Name	Remark	SW Version	Location
Display unit	GS-1002	*Incl. 4 serial ports and 1 LAN port*	2051552-05.xx	Protected
Antenna unit	GS-1001		2051591-01.xx	Exposed
Junction box	GS-1003		-	Protected
Interface unit	IF-2503* or IF-2550*	**optional*	-	Protected