DNV·GL

Certificate No:
MEDB000039D

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 GPS equipment

with type designation(s)
GP-170

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/4.14. 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.112(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 **2018-12-05**.

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

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.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

NORWEGIAN ACCREDITATION PROD 019

Job Id: **344.1-003834-7**
Certificate No: **MEDB000039D**

Product description

The GPS Navigator GP-170 comprises the following components:

Unit	Model Name	Remark	Location
Antenna unit	GPA-017S or GPA-020S or GPA-021S[1)]	*[1)]DGPS*	Exposed
Display unit	GP-170-EN or GP-170-EA[2)]	*[2)]w/beacon Rx*	Protected
Antenna cable	3D-2V or 8D-FB	*Coaxial cable*	
Built-in interfaces	DATA Port 1,2,3,4	*IEC61162-1*	Protected
	DATA Port 4	*IEC61162-2*	
	Ethernet	*IEC61162-450*	
Interface unit	IF-2503	*Optional*	Protected
Multi distributor	MD-550	*Optional; -4 outputs from two GPS inputs or 8 outputs from one GPS input*	Protected
Interface unit	IF-2500	*Optional; -6 serial outputs from two GPS and 3 relay contact alarm outputs*	Protected

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

Application/Limitation

The GPS equipment shall be installed in compliance with the Installation manual Pub. No. IME-44820-Z3.

Note: The GP-170 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.	Document No.	Document Title
2	OME-44820-Z3	Operator Manual GP-170
3	IME-44820-Z3	Installation Manual GP-170
6	FLI12-13-045	IEC 61162-1/2 test report for GPS NAVIGATOR GP-170
7	FLI12-13-044	IEC 60945 test report for GPS NAVIGATOR GP-170
8	FLI12-13-046	IEC 61162-450 test report for GPS NAVIGATOR GP-170
9	FLI12-13-047	IEC 62288 test report for GPS NAVIGATOR GP-170
10	FLI12-13-061 and K20-17-832	IEC 60945 EMC test reports for GPS NAVIGATOR GP-170
11	K20-10-022	Technical information GP-170
12	K20-17-815	Performance type testing report GP-170
13	K20-17-831	Test report GPA-021S
14	K20-17-833	Testing Report of Static Accuracy
15	K20-17-834	Testing Report of angular antenna movement GPS/DGPS
16	K20-17-836	Testing Report of Interferring Signal -L band/S band
17	K20-17-874	Testing Report of RAIM unsafe status indication
19	99383230	Telefication test report (D)GPS receiver equipment - Furuno GP-90

DNV No.	Document No.	Document Title
20	FLI12-04-049	IEC60945 test report for Furuno U-AIS FA-150 (GPA-017S)
21	K20-17-1002	Testing report MSC.302(87)
22	K20-17-965	DNV type approval testing report GP-170
27	FLI12-13-124	EMC test report IF-2503
28	FLI12-13-125	IEC60945 test report IF-2503
29	OMC-44411-A2	Interface unit IF-2503 - operators manual
30	TZ747	Interface unit IF-2503 - circuit diagram
31	OME-44080-B3	Multi-distributor MD-550 - manual
32	14-070-001-1	MD-550 multi distributor - interconnection diagrams
33	FLI12-10-014	MD-550 multi distributor - IEC61162-1 tests
34	FLI12-10-005	MD-550 multi distributor - IEC60945 tests
35	FLI12-03-065	IEC 60945 test report: IF-2500 INTERFACE UNIT
36	LIC12-15-088	IEC 61162-1 test report: IF-2500 INTERFACE UNIT
40	LIC 12-15-124	Report: Compass safe distance (CSD) - Test Report IEC 60945
41	LIC 12-15-125	Report: Safety Precautions Test Report IEC 60945
42	FLI 01-03-025	Report: Photographs of GPS Navigator GP-90-Dual
43	OMC43421A6	Manual: OPERATOR'S MANUAL INTERFACE UNIT IF-2500

Tests carried out

- Performance - IEC61108-1(2003)
- Performance - IEC61108-4(2004)
- 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 Manufacturer and Type Designation to be identified on 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.