

EC-TYPE EXAMINATION CERTIFICATE

Certificate No:
MED-B-9568
Item No:
A.1/4.50
Job Id:
344.1-003834-2

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2013/52/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the DGPS Equipment

with type designation(s)
GP-170

Issued to

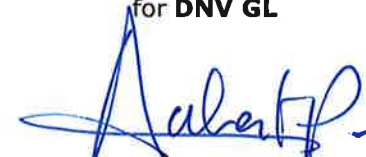
Furuno Electric Co., Ltd.
Nishinomiya Hyogo Pref, Japan

is found to comply with the requirements in the following Regulations/Standards:

Annex A.1, item No. A.1/4.50 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation V/18, V/19 & X/3, IMO Res. A.694(17), 2000 HSC Code 13 and IMO Res. MSC.112(73) & 114(73) & 191(79)

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

Høvik, 2014-12-15
for **DNV GL**


for **Marianne Strand Valderhaug**
Head of Department



Notified Body No.: **0575**

DNV GL local office:
Helsinki



This Certificate is valid until
2018-12-05


Olaf Gundersrud
Surveyor



The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

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Product description

The GP-170 consists of the following units:

Component	Location
Antenna unit	Exposed
Display unit	Protected

For details, see Appendix.

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

Application/Limitation

The DGPS 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

- For details, see Appendix.

Tests carried out

- IEC61108-1(2003)
- IEC61108-4(2004)
- IEC61162-1(2010)
- IEC61162-2(1998)
- IEC61162-450(2011)
- IEC62288(2014)
- 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.

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 GPS Navigator GP-170 comprises the following components:

Unit	Model Name	Remark
Antenna unit	GPA-021S	
Display unit	GP-170-EA	
Antenna cable	3D-2V or 8D-FB	Coaxial cable
Interfaces	DATA Port 1,2,3,4	IEC61162-1
	DATA Port 4	IEC61162-2
	Ethernet	IEC61162-450
Interface unit	IF-2503	Optional
Multi distributor	MD-550	Optional; -4 outputs from two GPS inputs or 8 outputs from one GPS input

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 Interfering 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
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



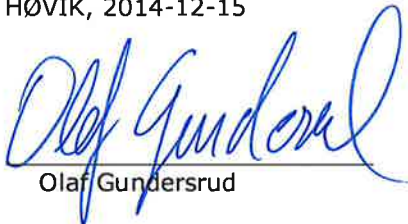
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Type Examination documentation(cont.)

33	FLI12-10-014	MD-550 multi distributor - IEC61162-1 tests
34	FLI12-10-005	MD-550 multi distributor - IEC60945 tests

Place and date
HØVIK, 2014-12-15


Olaf Gundersrud



End of Certificate