EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB00000EV
Revision No:
4

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 Universal automatic identification system (AIS)

with type designation(s)
FA-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) 2023/1667,**
item No. MED/4.32. 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.302(87), IMO Res. MSC.191(79), ITU-RM-1371-5 (02-2014),IMO Res.MSC.74(69)

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

This Certificate is valid until **2026-01-18**.

Issued at **Høvik** on **2024-08-27**

DNV local unit:
Japan CMC

Approval Engineer:
Steinar Kristensen

Notified Body
No.: **0575**

for **DNV AS**
Digitally signed by Elter, Frederik Tore
Location: DNV Høvik, Norway

Mydlak-Röder, Christine
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 300,000 USD.

Product description

The FA-170 UAIS consists of the following units:

Component	Location
AIS transponder	Protected
MKD	Protected
Power supply	Protected
GPS/GNSS antenna	Exposed
VHF antenna	Exposed

For details, see Appendix.

Application/Limitation

The internal GPS/GLONASS (GNSS) sensor of FA-170 may be used as back-up sensor for position reporting for the transmitted AIS messages.
The FA-170 components shall be installed in compliance with the Installation Manual Pub. No. IME44900F22 (*or later revisions*).

Type Examination documentation

- For details, see Appendix.

Tests carried out

- IEC 61993-2 (2018)
- IEC 61108-1 (2003)[1)]
- IEC 61108-2 (1998)[1)]
- IEC 61162-1 (2016)
- IEC 61162-2 (1998)
- IEC 61162-450 (2018)
- IEC 62288 (2021)
- IEC 60945 (2002) incl. Corr.1 (2008)
- IEC 62923-1 (2018) and IEC 62923-2 (2018)
- CCNR Test standard Inland AIS Ed.2.0 (2012)

[1)] as applicable for position reporting

Marking of product

The type designation and name and contact address of the manufacturer shall be affixed visibly, legibly and indelibly to the product. In addition the product shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

APPENDIX

Product description:

The FA-170 UAIS comprises combinations of the following components:

Unit	Model Name	Remark
Transponder unit	FA-1701	
Interfaces	External displays	*2 COM ports*
	Pilot plug	*4 COM ports*
	Sensors	*3 serial ports (IEC61162-1)*
	LAN	*1 RJ45 port (CAT5 STP)*
	External alarm I/O	
Monitor unit (MKD)	FA-1702	
GPS/VHF combined antenna and distributor unit, or;	GVA-100* and DB-1	**May be exchanged with GPA-017S and separate VHF whip antenna*
GPS antenna and separate VHF antenna, or;	GPA-017S**	***FAB-151D or analogous antenna as specified in the installation manual*
GNSS/VHF combined antenna and distributor unit, or;	GVA-170 * and DB-1	**May be exchanged with GPA-017S and separate VHF whip antenna*
GNSS antenna and separate VHF antenna	GPA-022S**	***FAB-151D or analogous antenna as specified in the installation manual*
Software	0550255-02.xx[1)] 0550256-02.xx[2)] 48504650xx[3)]	*[1)] FA-1701* *[2)]FA-1702* *[3)]GPS receiver*

Optional components:

Pilot plug	FA-1703	*Flush mounting panel*
VHF whip antenna	FAB-151D	*May be included in GVA-100 / GVA-170 or combined with GPA-017S / GPA-022S or replaced by an analogous antenna as specified in the installation manual*
AC/DC power supply	PR-240 or PR-241	

Type Examination documentation

DNV No	Document ID	Rev	Description
6	K20-17-815		DNV type approval testing report (GP-170 GPS receiver)
11	K05-17-833		DNV Type approval Testing Report – Class A AIS".
12	K05-17-848		DNV Type Approval Testing Report - Physical test
13	K05-17-845		DNV Type Approval Testing Report - IEC61162-1/2/450 FA-170
14	FLI-12-11-129		Test Report - IEC61162-1 UAIS transponder FA-150
15	BSH/4612/432218 1/12-4		Conformance Test Report - AIS class A, FA-150 IEC61162-1
16	FLI-12-15-034		Test Report - IEC61162-450 UAIS transponder FA-170
17	FLI-12-15-033		Test Report - IEC61162-1/-2 UAIS transponder FA-170
18	K05-17-834		DNV Type Approval Testing Report - Internal GPS- FA-170
19	FLI-12-15-035		Test Report - IEC62288 - UAIS transponder FA-170
20	FLI-12-15-032		Test Report - IEC60945 clause 12.2 - radio frequency radiation
21	FLI-12-15-031		Test Report - IEC60945 - compass safe distance
22	FLI-12-15-030		Test Report - IEC60945 - environmental + misc.

DNV No	Document ID	Rev	Description
23	FLI-12-15-029		Test Report - IEC60945 - EMC
28	K05-17-880		FA-170 DNV type approval testing report IEC61993-2
30	K05-17-831		FA-170 DNV Type Approval testing report (CCNR inland AIS)
34	FLI12-02-001		FA-100 IEC60945 test report
35	FLI12-04-049		FA-150 IEC60945 test report
36	FLI12-04-057		PR240 IEC60945 test report
38	LIC 12-19-022		FA-170 IEC61162-1(Ed.5) Test report
39	K05-17-1052		FA-170: IEC61162-1 Ed.5 type approval testing report
40	K05-17-832		DNV type approval testing report BAM MSC.302(87)
44	K05-17-1095	2020/11/24	Report: Furuno - FA-170 Test report for DNV (IEC 62923-1-2 Ed1)
58	LIC 12-20-158	20 October 2020	Report: LABOTECH, IEC 61162-450 - Model: U-AIS TRANSPONDER Type: FA-170
60	K05-17-1096	2020/11/27	Report: Furuno - IEC 61993-2 - DNV type approval testing report - Model: Class A shipborne equipment of the automatic identification System (AIS) Type: FA-170
61	K05-17-1097	2020/11/24	Report: Furuno FA-170 Test report for IEC 61108-2 Ed1 GPS/GLONASS antenna
62	LIC 12-20-174	13 Nov. 2020	Report: LABOTECH IEC60945 - EMC Emissions - GVA-170 GNSS Antenna Model: U-AIS TRANSPONDER Type: FA-170
63	LIC 12-20-175	13 Nov. 2020	Report: LABOTECH IEC60945 - EMC Immunity - GVA-170 GNSS Antenna Model: U-AIS TRANSPONDER Type: FA-170
64	LIC 12-20-178	30 Nov. 2020	Report: LABOTECH IEC60945 - Vibration - GVA-170 GNSS Antenna Model: U-AIS TRANSPONDER Type: FA-170
67	K20-17-1591	10 Mar. 2020	Report: IEC61108-2 5.6.4.2 Testing Report of Angular antenna movement GLONASS (reference doc. K05-17-1097)
68	K20-17-1593	10 Mar. 2020	Report: IEC61108-2 5.6.4.2 Testing Report of Angular antenna movement Differential GLONASS (reference doc. K05-17-1097)
69	K20-17-1600	10 Mar. 2020	Report: IEC61108-2 5.6.5.3 Acquisition Interruption of GLONASS signals (reference doc. K05-17-1097)
70	K20-17-1570	12 Mar. 2020	Report: Marine radio beacon receiver GPS/GLONASS/DGPS/DGLONASS (reference doc. K05-17-1097)
71	LIC12-20-018		Report: LABOTECH IEC 60945 (CSD) GPA-022S (reference doc. K05-17-1097)
72	LIC12-20-019		Report: LABOTECH IEC 60945 (EMC) GPA-022S (reference doc. K05-17-1097)
73	LIC12-20-025		Report: LABOTECH IEC 60945 (ENV) GPA-022S (reference doc. K05-17-1097)
75	IME44900F22	F22: JAN. 8, 2021	Manual: Installation Manual - Class A AIS - Model: FA-170
76	C82-02001-Z11	Z11: OCT. 2020	Manual: Installation Guide AC/DC POWER SUPPLY UNIT - Model PR-241
77	LIC 12-20-120	Rev. 1	Report: LABOTEC IEC60945 ENV - Furuno AC/DC POWER SUPPLY UNIT Type: PR-241
78	LIC 12-20-119	Rev. 1	Report: LABOTEC IEC60945 Compass safe distance - Furuno AC/DC POWER SUPPLY UNIT Type: PR-241
79	LIC 12-20-120	Rev. 1	Report: LABOTEC IEC60945 EMC - Furuno AC/DC POWER SUPPLY UNIT Type: PR-241
80	LIC 12-20-122	Rev. 1	Report: LABOTEC IEC60945 excessive conditions, acoustic noise, dangerous voltage - Furuno AC/DC POWER SUPPLY UNIT Type: PR-241
90	LIC12-22-191	14 November 2022	Report: Labotech, IEC60945 GPS Antenna Unit GPA-017S

DNV No	Document ID	Rev	Description
92	LIC 12-24-020	2	Report: Labotech, IEC 62288 (2021) test report for FA-170 AIS
93	OME-44900-K10	K	Manual: Furuno, Operator's manual Class A AIS Model FA-170 AIS