

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 Echo-sounding equipment

with type designation(s)
FE-800

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

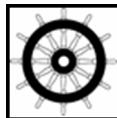
is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773**,
item No. MED/4.6. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.224(VII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.74(69), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)

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

This Certificate is valid until **2023-11-15**.

Issued at **Høvik** on **2018-11-16**

DNV GL local station:
Kobe



Notified Body
No.: **0575**

for **DNV GL AS**

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Roald Vårheim
Head of Notified Body

Approval Engineer:
Roger Lauritsen

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



Job Id: **344.1-004190-2**
 Certificate No: **MEDB000039F**

Product description

The FE-800 echo sounding equipment comprise the following components:

Unit	Model	Location	Comment
Display unit	FE-8010	Protected	
Transceiver unit	FE-8020	Protected	<i>with 6 serial ports and 1 LAN port</i>
Matching box	MB-502 ¹⁾ and/or MB-504 ²⁾	Protected	¹⁾ 50B-6B ²⁾ 200B-8B
Transducer	50B-6B and/or 200B-8B	Submerged	
Remote display *	RD-20 RD-50	Protected	<i>*optional</i>
Interface unit*	IF-2503	Protected	
HUB*	HUB-100 (switching HUB) HUB-3000 (intelligent HUB)	Protected	
Software versions	1251002-01.xx 1251003-01.xx	N/A	<i>xx=01-99</i>

Application/Limitation

- The FE-800 components shall be installed in compliance with the Installation manual Pub. No. IME-23840-Z4.

Type Examination documentation

DNV GL No	Document ref	Rev.	Description
23	K02-17-069		Test Report for FE-700 -signal-to-noise
22	K02-17-49-00		Test Report for Furuno FE-700
21	FLI 12-99-036		Test Report for Furuno FE-700
20	KOB9921872/2		Transducer immersion test
19	OME-23840	C10	Operator's Manual FE-800
18	IME-23840	D10	Installation Manual FE-800
17	K12-17-036	0	Correction report
16	K12-17-016	0	DNV type approval testing report
14	FLI12-13-140		IEC62288 test report
13	FLI12-13-137		Compass safe distance test report
12	FLI12-13-136		IEC60945 test report
11	FLI12-13-135		IEC60945 test report
10	FLI12-13-132		IEC61162-1 test report
9	FLI12-13-133		IEC61162-450 test report
8	FLI12-13-134		EMC test report
7	OME-44540-C		Operator's Manual RD-20
6	OME-44530-C		Operator's Manual RD-50
5	FLI-1209-053		FLI Test Report - IEC 60945 RD-20
4	FLI-1209-068		FLI Test Report - IEC 60945 RD-50



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Tests carried out

- IEC 60945 (2002)
- IEC 61162-1 (2016)
- IEC 61162-450 (2011) + am1 (2016)
- IEC 62288 (2014)
- ISO 9875 (2000)

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.