



# TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MERB000039F**  
Revision No:  
**0**

This Certificate is issued by DNV UK Limited based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016 as amended.

## This is to certify:

**That the Echo-sounding equipment**

with type designation(s)  
**FE-800**

Issued to

**Furuno Electric Co., Ltd.**  
**Nishinomiya, Japan**

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

Regulation **MSN 1874 Amendment 6,**

**item No. UK/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 **2026-06-02**.

Issued at **London** on **2022-12-28**

DNV local unit:  
**Kobe**



for **DNV UK Ltd.**

Approval Engineer:  
**Frederik Tore Elter**

Approved Body No.: **0097**

**Christine Mydlak-Röder**  
**MER Service Responsible**



**Maritime &  
Coastguard  
Agency**

UK Approved Body Authorised  
by the MCA

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-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body. The product liability rests with the manufacturer or his representative in accordance with the Merchant Shipping (Marine Equipment) Regulations 2016.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV UK Ltd. of any changes to the approved equipment. 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. This certificate remains valid unless suspended, withdrawn, re-called, or cancelled.

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 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 <sup>1)</sup> and/or MB-504 <sup>2)</sup>	Protected	<sup>1)</sup> 50B-6B <sup>2)</sup> 200B-8B
Transducer	50B-6B and/or 200B-8B	Submerged	
Remote display *	RD-20 RD-50	Protected	<i>*optional</i>
Interface unit*	IF-2503 IF-2550	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-J10.

## Type Examination documentation

DNV No.	Document ID	Rev.	Description
47	LIC 12-21-009	8 February 2021	Report: LABOTECH - IEC 61162-450 - Furuno NAVIGATIONAL ECHO SOUNDER Model: FE-800 Type: FE-8020
46	LIC 01-20-048	8 February 2021	Report: LABOTECH - Reference document for IEC 61162-450 test performed by LIC (LIC test report no. LI C 12 21 009 for FE 800)
39	K12-17-061	Issue 03.06.2021	Report: Furuno - IEC62923-1/-2 BAM - DNVGL type approval testing report - Model: ECHO SOUNDER Type : FE-800
36	LIC 01-20-021	4 August 2020	Report: Labotech Reference document for IEC 61162-1 -2 - Furuno INTERFACE UNIT IF-2550
35	LIC 12-20-064	29 May 2020	Report: Labotech IEC 60945: 2002 (ed. 4), Clause 11.2, - Furuno INTERFACE UNIT IF-2550
34	LIC 12-20-065	29 May 2020	Report: Labotech IEC 60945: 2002 (ed. 4), Clause 7.2,11.1 and 12.2, - Furuno INTERFACE UNIT IF-2550
33	LIC 12-20-066	29 May 2020	Report: Labotech IEC 60945: 2002 (ed. 4), Clause 8.7, - Furuno INTERFACE UNIT IF-2550
32	LIC 12-20-095	7 July 2020	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
31	LIC 12-20-096	4 August 2020	Report: Labotech IEC 60945: 2002 (ed. 4), Clause 7.1, 8.2, 8.3 and 8.4 - Furuno INTERFACE UNIT IF-2550
30	LIC 12-20-097	4 August 2020	Report: Labotech IEC 60945: 2002 (ed. 4), Clause 6, 13, 14 and 15, - Furuno INTERFACE UNIT IF-2550
29	LIC 12-20-098	29 May 2020	Report: Labotech IEC 61162-1 and IEC 61162-2 - Furuno INTERFACE UNIT IF-2550
28	C7202001Z20		Manual: Furuno - Installation Guide Interface Unit Model IF-2550

DNV No.	Document ID	Rev.	Description
27	OME-23840-E10	E10: MAY 13, 2021	Manual: Furuno - OPERATOR'S MANUAL NAVIGATIONAL ECHO SOUNDER Model FE-800
26	IME-23840-J10	J10: MAY 13, 2021	Manual: Furuno - Installation Manual NAVIGATIONAL ECHO SOUNDER Model FE-800
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
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

## Tests carried out

- Environmental IEC 60945 (2002) inc. Corr.1(2008)
- Serial Interface IEC 61162-1 (2016)
- LAN Interface IEC 61162-450 (2018)
- Presentation IEC 62288 (2014)
- Performance ISO 9875 (2000)
- Bridge Alert Management IEC 62923-1 (2018) and IEC 62923-2 (2018)

## 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.