

# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MEDB00000HG**  
Revision No:  
**1**

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 Speed and distance measuring equipment (SDME)

with type designation(s)  
**DS-80**

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**,

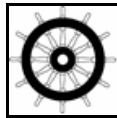
**item No. MED/4.7. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.694(17), IMO Res. A.824(19), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)**

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

This Certificate is valid until **2024-07-14**.

Issued at **Høvik** on **2019-07-15**

DNV GL local station:  
**Kobe**



for **DNV GL AS**

Approval Engineer:  
**Olaf Gundersrud**

Notified Body  
No.: **0575**

**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 22 February 2019.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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: **344.1-005113-2**  
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## Product description

The DS-80 Doppler Speed Log consist of the following units:

Unit	Location
Display unit	Protected
Distribution box	Protected
Transceiver unit	Protected
Transducer	Submerged

For details, see Appendix.

## Application/Limitation

- The equipment shall be installed and tested onboard in accordance with the Installation Manual IME-72420-T (or later version)

## Type Examination documentation

- See Appendix.

## Tests carried out

- IEC61023(2007)
- IEC61162-1(2016)
- IEC62288(2014)
- IEC60945(2002)(incl. Corr.1,2008)

## Marking of product

The type designation and name and contact address of the manufacturer shall be affixed visibly, legibly and indelibly to at least one part of the product. In addition the various equipment shall be marked with type and serial number. Safe distance to magnetic compass and power consumption and/or supply voltage may be stated in the installation manual.

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## APPENDIX

### Product description:

The DS-80 Doppler Speed Log comprises the following units:

Unit	Model Name	Remark
Display unit	DS-800	
Terminal box	DS-802	
Distribution box	DS-801	
Transducer unit	DS-820	
Transceiver unit	DS-810	
<i>Software versions</i>		
<i>DS-800</i>	<i>65501010 ver.0x</i>	<i>x =0,1,2...9</i>
<i>DS-801</i>	<i>65501100 ver.0x</i>	
<i>DS-810</i>	<i>65501200 ver.0x</i>	
<b>Optional units</b>		
Digital speed indicator	DS-830	
Digital distance indicator	DS-840	
Junction box	CI-630	
Remote display	RD-20	
Remote display	RD-50	
Dimmer	MF-22L-n	<i>n=1 or 2</i>

### Type Examination documentation:

NPS No.	Document No.	Rev.	Document Title
1	BSH 6299/063/02		Conformance test of DSME Furuno DS-80
5	FLI 12-05-038		IEC60945(EMC) Test Report for Doppler speed log DS-80
6	FLI 12-07-057		IEC60945(ENV) Test Report for Display unit DS-800
7	FLI 12-10-004		IEC62288 Test Report for Display unit DS-800
8	FLI 12-12-023		IEC61162-1 Test Report for Doppler speed log DS-80
9	IME-72470-T		Installation Manual: Doppler speed log DS-80
10	OME-72470-P		Operator's Manual: Doppler speed log DS-80
11	4581/001/4072565/13		BSH MED certificate
12	BSH/46162/0121508/09		Display RD20 : IEC62288(2008)
13	BSH/46162/0121508/09-1		Display RD20 : IEC61162-1(2007)/ ITU-T v.11
14	BSH/46162/0121509/09		Display RD50 : IEC61162-1(2007)/ ITU-T v.11

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### Type Examination doc. cont.:

<b>NPS No.</b>	<b>Document No.</b>	<b>Rev.</b>	<b>Document Title</b>
15	FLI12-05-067		EMC test report: Alarm Unit AU-12
16	FLI12-99-041		IEC60945: Doppler speed log DS-80
18	K65-17-041		DNVGL type approval report DS-80 (IEC62288 Readability)
20	LIC 12-16-057		IEC61162-1 protocol test
24	LIC 12-19-045		DS-80 IEC61162-1 Ed.5