

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 Speed and distance measuring equipment (SDME)

with type designation(s)
EML900-FB1 -FB2,-HD1,-HV1,-HV2

Issued to

Yokogawa Denshikiki Co., Ltd., Morioka Branch
Morioka, Iwate, Japan

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2019/1397**,
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)

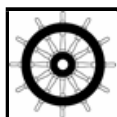
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-07-08**.

Issued at **Høvik** on **2020-07-09**

DNV GL local station:
Yokohama

Approval Engineer:
Frederik Tore Elter



Notified Body
No.: **0575**

for **DNV GL AS**

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 17 October 2005, and amended by Decision No 1/2019 dated February 22nd, 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Job Id: **344.1-009482-1**
Certificate No: **MEDB00005J2**

Product description

- FB1, HV1 and HD1 are Single Axis Speed logs for measurement of speed and distance through water.
- FB2 and HV2 are Dual Axis Speed logs for measurement of speed and distance through water.

Product Name	Model	Remark	Software Module and Version
Master Unit	MLC301		V8316TA, Version Axx
Master Indicator	MLH533		V8316TB, Version Axx
Speed Indicator	MHR130		V8504ZA, Version Axx
	LR525	Dual Indication	CD072, Version Axx
Junction Box	MLN090		-
Sensor	MLT331, Φ 35		-
	MLT341, Φ 48		-
	MLT342, Φ 48	Dual axis	-
	LS571, Φ 70		-
	LS572, Φ 70	Dual axis	-
	MLT331, Φ 35 + Rod LS501	Double bottom	-
Dimmer Box	MRD010		-
	LD001A		-
Dimmer Unit	MRD011		-

Application/Limitation

- EML900 is to be installed in accordance to manufacturers documentation.
- EML900 may be interfaced to a MED approved GPS for additional presentation functions and presentation of SOG as a repeater.

Type Examination documentation

DNV GL No.	Doc Ref.	Rev	Description
17	No.19-212		Report: RIME IEC60945 Compass safe distance EML900
15	JPX-TR-19266-0		Report: Tuv Sud, IEC 60945 EMC testing EML900
14	ENV19021		Report: IPS, IEC60945 Test Report ETR
7	No.19-085	E	Report: RIME IEC60945 Test for protection function of enclosure
4	No.19-126	E	Report: RIME IEC60945 Corrosion (Salt Mist) Test EML900
16	YDK-D02-AA-19-048		Report: Yokogawa, IEC 60945 8.9 Immersion Test report
18	YDK-D02-AA-19-044		Report: Yokogawa, IPS, RIME, TUV SUD witnessed Test Report
13	IM 80B80C01E	4	Manual: ELECTROMAGNETIC LOG EML900 Series User's Manual

Tests carried out

- Environmental Tests: IEC 60945 (2002) incl Corr 1. (2008)
- Performance Tests: IEC 61023 (2007)
- Serial Interface Tests: IEC 61162-1 (2016)
- Presentation of information: IEC 62288 (2014)

Marking of product



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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