

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007B1

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 Speed and distance measuring equipment (SDME)

with type designation(s)
LMN6 DUO

Issued to

AVANTIX SASU
Aix en Provence, France

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

Regulation (EU) 2020/1170,

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)

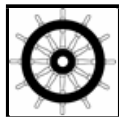
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2026-05-03**.

Issued at **Høvik** on **2021-05-04**

DNV local station:
France CMC

Approval Engineer:
Frederik Tore Elter



Notified Body
No.: **0575**

for **DNV AS**

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

LMN6 Speed Log Duo, for two along ships single axis speed sensors, consists of the following components:

Unit	Item	Reference
Main Unit	LMN6 Duo cabinet	108254
	Backplane cabinet	99985
	2 x Loch 1 way Module	105345
	IO Module	100865
	RS 422 Extension Module	100866
	115/220v Main Power Supply Module	100863
	115/230v Sensor Power Supply Module	100864
	LMN6 Duo wired screen & Co. CONF02	110972
	Screen 7" LMN	100868
	Screen Interface Board	105083
	SMARC IMX6 Board NG	105116
Repeater Unit	LMN6 combined repeater	105068
	RGD100 (115v)	90876
	RGD100 (220v)	109932
Sensors	2 x 130 EB	88904
	2 x 130 FIMN	90877

Application/Limitation

- LMN6 speed log is to be installed in accordance with manufacturers documentation.
- If connected to an approved system, LMN6 may present GPS information including position, SOG and COG.
- LMN6 does not issue alerts, hence testing according to IEC 62923-1 and IEC 62923-2 is deemed as not being applicable.

Type Examination documentation

DNV No	Drw No	Rev	Title
78	DP072607DJD001	00	Report: LMN6 Duo 62288 Navigation Display Justification
77	R-ADE-BMN-19-300278-1/A (01)	00	Report: Emitech, IEC 60945 Vibration Test
76	IEC61162_B4.9.1-DUO	0	Report: IEC 61162-1 B.4.9.1 test report
75	IEC61162_B4.8-DUO	0	Report: IEC 61162-1 B.4.8 test report
74	IEC61162_B4.6-DUO	0	Report: IEC 61162-1 B.4.6 test report
73	IEC61023_5.12.1-DUO	0	Report: IEC 61023 5.12.1 test report
72	DP068323CRE154	00	Report: Avantix, IEC 61023, 61162, 62288 Witnessed Test Report
70	R – 2939- V3	3	Report: Piseo, LMN6 62288 testing
69	DP068323MUL001	05	Manual: Ben Marine, User manual LMN6 and combined repeater
68	DP068323CRE182	00	Report: Avantix, 61162-1 review report
67	R-ADE-BMN-18-300240-4/A (00)	00	Report: Adetests, EN 60068-2-11 (1999) Salt Spray Test for Combined Repeater
50	R-ADE-BMN-18-300240-2/A (02)	Ed. 00	Report: Adetests, IEC 60945/60068 - CLIMATIC ENVIRONMENT TESTS REPORT - LMN6 CABINET
43	R120-18-104 199-01-3-A	Edition 0	Report: Emitech, IEC 60945 Clause 12.1 LMN6 Combined Repeater NG
40	R-ADE-BMN-18-300240-3/A (00)	Ed.0	Report: Emitech, IEC 60945, MECHANICAL TESTS REPORT Vibration Combined Repeater NG

39	R240-BNN-18-104216 A (01)	Ed.1	Report: Emitech, IEC 60945 TEST REPORT VIBRO-ACOUSTIC LMN6 Cabinet
36	R120-18-104 199-01-1_A	00	Report: Emitech, IEC 60945 Compass safe distance LMN6
35	RCE-120-18-104199-1-A	0	Report: Emitech, IEC 60945, EMC Combined Repeater NG
15	R120-18-102 634-01-1_A	0	Report: Emitech, IEC 60945 EMC Test Report (LMN6-115ac 60HZ Cabinet)
7	R-ADE-BMN-18-300240-1/A (00)	00	Report: Adetests, IEC 60945, (Vibration) MECHANICAL TESTS REPORT LMN6 cabinet

Tests carried out

- Environmental testing: IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008),
- Presentation testing: IEC 62288 (2014)
- Interface testing: IEC 61162-1 (2016)
- Performance testing: IEC 61023 (2007)

Marking of product

The name and contact address of the manufacturer and type designation of the product is to be affixed to the equipment in a clearly visible location. In addition, the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.