

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB00001Y1
Revision No:
3

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)
Jotron Skipper EML224, EML 1100 and EML 1200

issued to

Jotron Skipper AS
Oslo, Norway

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

Regulation (EU) 2023/1667,

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)

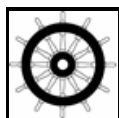
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2029-04-03**.

Issued at **Høvik** on **2024-04-04**

DNV local unit:
East & South Norway CMC

Approval Engineer:
Frederik Tore Elter



Notified Body
No.: **0575**

for **DNV AS**

Mydlak-Röder, Christine
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 1/2023 dated August 21st, 2023.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

Hardware modules:

- EML1200 Display
- or
- EML224 Compact Display
- and
- EML Junction Box
- or
- EML Junction Box
- and
- EML224 Sensor

Type/ part no.:

- CU-M101-xx
- CD401Ex-xx
- JB60XX-XX
- JB40POW
- EML224Sxxx-xx

Options:

Hardware modules:

- EML Remote dimming control:
- Digital speed and distance repeater
- Digital speed and distance repeater
- Digital multi repeater
- Universal digital display
- Managed ethernet switch

Type/ part no.:

- IR30DIM
 - IR300
 - CD401MR-XX
 - CD 401 MR
 - UDD SAM 4900
 - EDS-408A
- SW version 1.xx
 SW version 1.xx
 SW Version 1.7x

Software modules:

- EML1200 Display
 - EML224 Compact Display:
- SW version 1.1.xx
 SW version 1.xx

Application/Limitation

- The EML-series SDMEs are to be installed in accordance with manufacturers documentation,
- The EML with type designation EML1100 supports single axis speed and EML1200 dual axis speed.
- EML1100/1200 is tested to support alerting in accordance with IEC 62923-1 and IEC 62923-2.
- EML224 does not issue alerts, hence testing according to IEC 62923-1 and IEC 62923-2 is deemed as not being applicable.
- EML1100/1200 is tested to comply with requirements of IEC 61162-450 and IEC 61162-460 as node function.
- The digital repeaters IR300 and CD401MR are approved for installations in exposed (outdoor) areas.
- EML1100/1200 may be installed with up to 6 displays.
- EML1100/1200 may be provide Web-HMI, in addition to installed EML1200 Display. Installation is to be in compliance with manufacturers documentation *DM-I050 Integration to the INS series*.

Type Examination documentation

DNV No .	Document ID	Rev.	Description
76	TAA000006N	Rev-5	Certificate: IEC 60945 Ethernet Switch EDS-408A
73	ND-756		Manual: Skipper Integration instructions for INS systems
72	DM-R006-SC-2242		Manual Skipper Compact Multi Repeater MR Operation and Installation Manual
71	DM-M001-SA	Rev:0702	Manual: Skipper EML224 / DL1 Compact Speed Log System Operation and Installation Manual
70	DM-E004-SA-X1	X3	Manual: Skipper EML1100 EML1200 operation and installation manual
65			Report: IEC 62288 (2021) Skipper EML224 STW Speedlog according to EU Directive 2014/90 EU amend by (EU) 2023/1667
64			Report: Skipper EML1200 STW Speedlog according to EU Directive 2014/90 EU amend by (EU) 2023/1667
52	461962r00		Report: NEMKO IEC68822 461962 TRF DISPLAY (CU-M101)
51	REP007426		Report: NEMKO IEC 60945 Display unit CU-M101-*A
38	DM-M001-SA	0702	Manual: Skipper, EML224/ DL1 Compact Speed Log System, Operation and Installation Manual
37	TAA000015T		Certificate: DNV GL, CD 401 MR

DNV No .	Document ID	Rev.	Description
33		13.01.2017	Report: Additional testing for Display standards for GDS101, GDS102, DL850, EML224, CD401
32			Report: Survey report- IEC 61162 (2010) testing
31	E08582.00		Report: NEMKO, Tests acc. to EN60945 (2002)
30		23.02.2009	Report: Operational Tests - EML224 Electromagnetic Log w/Compact Display CD401
22		04.06.2008	Report: Compact production testing v1_00_4_6_08
18		16. May 2008	Report: Update performance test for EML224 with CD401
14	E07412.00		Report NEMKO, Test Report CD401
12	DANAK-196857		Report: DANAK, Type approval tests ED-165, IR-300, IR-301
10	DM-R001-SA	Rev 1.7	Manual: IR300 Digital Speed and Distance Repeater. Operating and Installation Manual
7		January 2007	Report: Performance Test Report EML224 with compact sensor
6	January 2007		Report: Skipper, Dry Heat Storage Test for EML224S
5	BL9233T614		Report: Atlas, Environmental test report SAM 4642
4	December 2006		Report: Sea performance tests report EML224
2	July 2006		Report: Pressure test EML224 sensor
1	05299.136.06		EMC Test report

Tests carried out

- Environmental tests: IEC 60945 (2002) incl. Corr.1 (2008)
- Performance tests: IEC 61023 (2007)
- Serial Interface tests: IEC 61162-1 (2016)
- Display performance tests: IEC 62288 (2021)

In addition, for model EML1100 and EML1200

- Bridge Alert Management: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- LAN Interface tests: IEC 61162-450 (2018) and IEC 61162-460 (2018)*

*Note: In accordance with IEC 61162-460 (2018) section 10.5 460-Node for connection at EML1200 Display / part CU-M101-xx.

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.