

TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00001Y1
Revision No:
1

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 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 **MSN 1874 Amendment 9**,
item No. UK/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 **London** on **2024-06-24**

DNV local unit:
East & South Norway CMC



for **DNV UK Ltd.**

Approval Engineer:
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Approved Body No.: **0097**

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**Maritime &
Coastguard
Agency**

UK Approved Body Authorised
by the MCA

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.
During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards may change, therefore the product conformity may need to be re-assessed by the Approved Body.
"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. In case limitations of use apply, these should be indicated in the Annex.

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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
82		13.01.2017	Report: Additional testing for Display standards for GDS101, GDS102, DL850, EML224, CD401
81		20.01.2014	Report: CD 401 MR Performance Test Report
80	DM-R0005-SB	2012-09-05	Manual: Multi Repeater MR CD401R-SB Operation and Installation Manual
79	E07412.00		Report: Nemko. EN 60945 tests CD401
78		26.03.2010	Report: CD 401 MR Performance Test Report
77	E08582.00		Report: Nemko, Dual-axis Electromagnetic Speed Log
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

DNV No	Document ID	Rev.	Description
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
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.