

# TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MERB00001Y1**  
Revision No:  
**0**

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)  
**Skipper EML224**

Issued to

**Skipper Electronics AS**  
**Oslo, Norway**

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

Regulation **MSN 1874 Amendment 7,**

**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 **2024-02-12**.

Issued at **London** on **2023-05-25**

DNV local unit:  
**Oslo Maritime and CAP**



for **DNV UK Ltd.**

Approval Engineer:  
**Steinar Kristensen**

Approved Body No.: **0097**

**Christine Mydlak-Röder**  
**MER Service Responsible**



**Maritime &  
Coastguard  
Agency**

UK Approved Body Authorised  
by the MCA

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. The product liability rests with the manufacturer or his representative in accordance with the Merchant Shipping (Marine Equipment) Regulations 2016.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV UK Ltd. of any changes to the approved equipment. 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. This certificate remains valid unless suspended, withdrawn, re-called, or cancelled.

**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:

- EML224 Operator Unit
- EML224 Compact Display
- EML224 Junction Box
- EML224 Sensor

### Type/ part no.:

EML224x-xx  
CD401Ex-xx  
JB60xx-xx  
EML224Sxxx-xx

### Optional Features

#### Features:

- Remote dimming control:
- Digital speed and distance repeater  
SW version 1.xx
- Digital speed and distance repeater  
SW version 1.xx
- Digital multi repeater

#### Type:

IR30DIM  
IR300  
  
CD401LR  
  
CD 401 MR

### Software modules:

- EML224 Operator Unit - SW version 1.xx
- EML224 Compact Display - SW version 1.xx

## Application/Limitation

- The certificate is also valid for the Speed and distance measuring equipment with the following type designation:
  - Kelvin Hughes EML224
- The digital repeaters IR300 and CD401LR are approved for installations in exposed (outdoor) areas.
- The SDMEs covered by this certificate do 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	Document ID	Rev.	Description
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
34	DM-E001-SB	1650	Manual: EML224N 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
21		June 2008	Manual: LR Speed Log Repeater compact version
20		June 2008	Manual: EML224 Speed Log compact version
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
8		20050511C sw.1.27.11	Manual: EML224 Installation and Operating 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 (2014)

## Marking of product

- Skipper EML224 or
- Kelvin Hughes EML224

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.