

# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MEDB000013V**  
Revision No:  
**2**

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 Electronic chart display and information system (ECDIS)**

with type designation(s)  
**K-Bridge ECDIS, K-Nav ECDIS**

Issued to  
**KONGSBERG MARITIME AS**  
**Kongsberg, Norway**

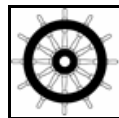
is found to comply with the requirements in the following Regulations/Standards:  
Regulation **(EU) 2018/773**,  
**item No. MED/4.30. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.232(82), IMO Res. MSC.302(87), IMO MSC.1/Circ.1503**

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

This Certificate is valid until **2022-01-31**.

Issued at **Høvik** on **2019-08-30**

DNV GL local station:  
**Sandefjord**



for **DNV GL AS**

Approval Engineer:  
**Steinar Kristensen**

Notified Body  
No.: **0575**

**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.



Job Id: **344.1-000647-9**  
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## Product description

Kongsberg Maritime ECDIS is available in two versions:

1. K-Bridge ECDIS, with support for Multi-Function Display (MFD) in combination with other K-Bridge systems
2. K-Nav ECDIS, intended as standalone ECDIS

K-Bridge ECDIS comprises:

- K-Bridge Operator Station : As defined in separate certificate\*)
- Software modules : As defined in separate certificate\*)

K-Nav ECDIS comprises:

- K-Nav Operator Station : As defined in separate certificate\*)
- Software modules : As defined in separate certificate\*)

\*) Type Examination Certificate for K-Bridge and K-Nav system platforms, see Type Examination documentation below.

*The K-Bridge ECDIS and K-Nav ECDIS may be delivered in K-Bridge Console KM05 or as built in version for other consoles*

## Application/Limitation

- The system shall be installed according to manufacturers manuals. See Type Examination documentation below for details.
- K-Bridge ECDIS and K-Nav ECDIS is found to comply with the requirements for ECDIS with Back-up arrangements.
- The K-Bridge ECDIS and K-Nav ECDIS is found to comply with the requirements for ECDIS in RCDS mode of operation when using HCRF navigational chart data format.
- The K-Bridge ECDIS may be optional provided with radar overlay functionality.
- The K-Bridge ECDIS is found to be in compliance with the requirements for MultiFunctionDisplay (MFD), when connected in a KM network. The MFD may serve as Radar, ECDIS, back-up ECDIS, HCS, TCS, BNWAS, CAM-HMI and Conning.

## Notes

- K-Bridge ECDIS and K-Nav ECDIS may be optionally connected to a Navtex.
- K-Bridge ECDIS and K-Nav ECDIS may be optionally provided with C-Map weather functionality.
- K-Bridge ECDIS and K-Nav ECDIS may be optionally provided with Site Map functionality.
- K-Bridge ECDIS and K-Nav ECDIS may be optionally provided with WMS client functionality

## Tests carried out

- Performance testing: IEC 61174 (2015)
- Environmental testing: IEC 60945 (2002) incl Corr. 1 (2008)
- Serial interface testing: IEC 61162-1 (2016)
- Presentation of navigation information: IEC 62288 (2014)

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### Type Examination documentation

| DNV GL No | Document Id.           | Rev.        | Description  |
|-----------|------------------------|-------------|--|
| 247       | 429329                 | A           | Manual: Kongsberg Maritime, K-Nav ECDIS and Planning Station, Operator Manual, Release 8.2           |
| 244       | 426747                 | G           | Manual: Kongsberg Maritime, K-Bridge ECDIS and Planning Station, Operator Manual, Release 8.1        |
| 243       | 429325                 | C           | Manual: Kongsberg Maritime, K-Bridge ECDIS and Planning Station, Operator Manual, Release 8.2        |
| 241       | 421041                 | A           | Report: Kongsberg Maritime, Type Approval test report, K-Bridge & K-Nav ECDIS- IEC61174 Ed.4.0       |
| 237       | 394793                 | D           | Manual: Kongsberg Maritime, K-Nav ECDIS KM05 OS-650 DL Operator Station Console, Installation Manual |
| 235       | 394794                 | D           | Manual: Kongsberg Maritime, K-Nav ECDIS KM05 OS-650 DL Operator Station Console, Maintenance Manual  |
| 228       | 419850                 | A           | Report: Kongsberg Maritime, K-Bridge and K-Nav ECDIS IEC 62288 (2014) test report                    |
| 227       | 418734                 | A           | Report: Kongsberg Maritime, S-64 Edition 3.0.1- PresLib 4.0.1  |
| 226       | 401093                 | C           | Report: Kongsberg Maritime, ECDIS Performance tests with Navtor SDK                                  |
| 223       | TAA00000FJ             | Latest rev. | Certificate: DNVGL, K-Bridge and K-Nav system platforms  |
| 221       | 385171                 |             | Report: Kongsberg Maritime, Type Examination Test Report K-ECDIS sensor interface                    |
| 218       | F917800A               |             | Report: SP, CN8E, EMC tests IEC 60945  |
| 217       | 913128                 |             | Report: Intertek Semko, CN8E Climatic tests IEC 60945  |
| 216       | 279693                 | 2           | Report: Innventia, CN8E, Vibration test IEC 60945  |
| 215       | 378512A                | A           | Manual: QWERTY, CN8E Octal NMEA/CAN/Ethernet LWE interface, Doc. no 9554A0                           |
| 214       | 382761                 | B           | Manual: CN8E 8-channel NMEA/CAN/Ethernet Converter, Hardware Module Description                      |
| 210       | 20126                  | 1           | Report: Applicia, interface tests Qwerty   |
| 183       | DOC100687-1            | 1           | Report: Hatteland, Conformance test report of 23T02 for use in RADAR and ECDIS                       |
| 182       | DOC100687-2            | 1           | Report: Hatteland, Conformance test report of 27T11 for use in RADAR and ECDIS                       |
| 180       | 1106172/C              |             | Report: Kongsberg Maritime, K-Bridge ECDIS, System test report                                       |
| 25        | 309463                 | A           | Report: Kongsberg Maritime, K-Bridge ECDIS, General Performance Test                                 |
| 18        | CU-0176-BT2/31.01-2003 |             | Report: KMSS, ECDIS colour verification of TFT monitor JH23T02MMD                                    |
| 9         | 15.02.07               |             | Report: KMSS, SeaMap 10 ECDIS - IEC 61174 - Edition 2 Test Programme                                 |
| 8         | CU-0166-A/27-May-02    |             | Report: KMSS, SeaMap 10 ECDIS IEC 61174-2 Test   |

### 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.