

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB000013V
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 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) 2021/1158,
item No. MED/4.30. SOLAS 74 as amended, Regulations V/18, V/19, V27 & 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 Rev.1

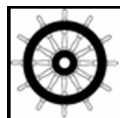
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2026-10-19**.

Issued at **Høvik** on **2021-10-20**

DNV local station:
Norway CMC, East-South

Approval Engineer:
Steinar Kristensen



Notified Body
No.: **0575**

for **DNV AS**

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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

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, 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^{*)}

^{*)} Certificate TAA00000FJ for K-Bridge and K-Nav systems (see Type Examination documentation below) in its latest revision at the date of placing the system on the market is part of this certificate. For the relevant revision see also <https://approvalfinder.dnv.com/>.

The K-Bridge ECDIS and K-Nav ECDIS may be delivered in K-Bridge Console KM05 or as built in version for other consoles incl. KM18.

Application/Limitation

- The system shall be installed according to manufacturer's 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)
- Bridge Alert Management: IEC 62923-1 (2018) and IEC 62923-2 (2018)

Type Examination documentation

DNV No	Document Id.	Rev.	Description
250	477915	C	Report: Kongsberg Maritime, K-Bridge and K-NAV CAM BAM Type Approval Test report
249	480424	A	Report: Kongsberg Maritime, K-Bridge/K-Nav VDR communication IEC61162-450:2018 Type Approval Report
247	429329	D	Manual: Kongsberg Maritime, K-Nav ECDIS and Planning Station, Operator Manual, Release 8.2
243	429325	J	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: DNV, K-Bridge and K-Nav system platforms
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: Applica, interface tests Qwerty
180	1106172/C		Report: Kongsberg Maritime, K-Bridge ECDIS, System test report
25	309463	A	Report: Kongsberg Maritime, K-Bridge ECDIS, General Performance Test
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.