

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB000026A
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 Rudder angle indicator

with type designation(s)
K-Bridge Multi Indicator

issued to

Kongsberg Maritime AS
Kongsberg, Norway

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

Regulation (EU) 2024/1975,

item No. MED/4.20. 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.302(87)

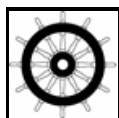
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-03-14**.

Issued at **Høvik** on **2025-03-21**

DNV local unit:
East & South Norway CMC

Approval Engineer:
Steinar Kristensen



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

Kongsberg Maritime K-Bridge Multi Indicator, consisting of:

Equipment type	Description	Model
Indicator unit	Computer with integrated display and interfaces	As defined in separate certificate ^{*)}
Rudder Angle Transmitter	Rudder Feedback Unit	RFU MkII
Analog interface	2-20mA analogue signal to NMEA converter	Analog Interface Mk2, KM art. No 422610
Software module	K-Bridge Multi Indicator SW	As defined in separate certificate ^{*)}
Options		
Network Switches	Moxa Ethernet Switch	As defined in separate certificate ^{*)}

^{*)} Type Examination Certificate TAA00000FJ for K-Bridge and K-Nav system platforms (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>

^{**)} Indicators may be connected to alternative transmitters with an impedance in the range 2– 5 kΩ, and which meet the requirements for transmitters in ISO 20673.

All units listed above are to be installed in a protected environment, i.e. indoor.

Application/Limitation

- Indicator is to be installed according to instructions in Installation Manual.
- Indicators are to be installed in a redundant configuration with fallback solution in case more than one type of indicator is to be presented on a single display.
- The K-Bridge Multi Indicator does 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
58	422622	A	Manual: Kongsberg Maritime, Converter Analog to Serial NMEA Instructions Manual
57	DANAK-19/15815	2015-11-05	Report: Delta, EMC and environmental test report for RFU mk2
50	110-0027406	B	Report: Kongsberg Maritime, K-Bridge Multi Indicator- Electric Rudder Angle Indicator, SW 2.0.0.1
49	455790	A	Report: Kongsberg Maritime, Multi Indicator Rudder Angle Indicator with HD 13T30 Test Report
48	455796	A	Report: Kongsberg Maritime, Multi Indicator Fallback with HD 13T30 Test Report
20	435426	A	Manual: Kongsberg Maritime, Rudder Angle Calibrator, Instruction Manual
19	439941	A	Manual: Kongsberg Maritime, Rudder Angle Calibrator, Installation Manual
16	TAA00000FJ	Latest rev.	Certificate: DNV, K-Bridge and K-Nav system platforms
15	MEDB00002UG	Rev 2	Certificate: DNV, MED-B certificate for rudder angle indicator system incl. Type 5014 Rudder Angle Calibrator
11	427973	H	Manual: Kongsberg Maritime, K-Bridge Multi Indicator, Installation Manual
10	424898	F	Manual: Kongsberg Maritime, K-Bridge Multi Indicator, Operator Manual



Job ID: **344.1-006502-13**
Certificate no.: **MEDB000026A**
Revision No: **3**

Tests carried out

- Performance testing: ISO 20673 (2022)
- Environmental testing: IEC 60945 (2002) incl. Corr.1 (2008)
- Presentation of navigation information: IEC 62288 (2021)
- Serial interface testing: IEC 61162-1 (2016)

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.