

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB00003AN
Revision no.:
3

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

that the **Rudder angle indicator**

with type designation(s)

DEIF Rudder Angle Indicator System

issued to

DEIF A/S
Frisenborgvej 33
7800 Skive
Denmark,

is found to comply with the Implementing Regulation (EU) 2025/1533 for
Item no. **MED/4.20 (Row 2 of 3)**

according to the following requirements:

SOLAS 74 Reg. V/19, IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.302(87), SOLAS 74 Reg. V/18, SOLAS 74 Reg. X/3, IMO Res. MSC.36(63)-(1994 HSC Code) 13, IMO Res. MSC.97(73)-(2000 HSC Code) 13

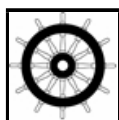
Further details of the equipment and conditions for certification are given overleaf.

Date of issue: **2026-04-10**

Expiry date: **2029-11-26**

DNV local unit:
Denmark CMC

Approval Engineer:
Jörg Rebel



Notified Body
no.: **0098**

for **DNV SE**

Christine Mydlak-Röder
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 European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment, signed February 27th, 2004, and amended by Decision No 1/2023 dated May 26th, 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 SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 USD 300 000.

Product description

The Rudder Angle Indicator System consists of the following equipment:

Analogue system components:

Indicators: XL72, XL96, XL144, XL192, TRI-2, BRW-2, BW144, BW192, XDi96, XDi144, XDi192
Feedback Unit: RT-2, RTA602, RTA800, Sakae SFSCB30A, Sakae FSCB30AG, Volvo Penta IPS 3
Interface Unit: DC/DC Amplifier: TDG-210, WAGO 857-409, AX1 analogue module

CAN system components:

Indicators: XL72, XL96, XL144, XL192, BRW-2, BW144, BW192, TRI-2 CAN, XDi96, XDi144, XDi192
Feedback Units: Contelec Vert-X 515x CANopen/Vert-X 37 CANopen, FSG MH620-II/MU, Dr. Horn EDG 50.42/72, RTC300, RTC600, RTC800
Optional: XDi extension modules AX1 analogue, DX1 digital, NX1/NX2 serial

Software versions: XDi D & M platform 1: 1.0x.x and XDi D, M & N platform 2: 2.0x.x,
AX1 Modul: 1.0x.x,
DX1 Modul: 1.0x.x,
NX1/NX2 Modul: 1.0x.x

Application/Limitation

- WAGO 857-409 Amplifier not to be used in locations of bridge and open decks
- According to the Commission Implementing Regulation (EU) 2025/1533, the last date for first installation of the product in its functional position on board an EU ship is 2028-09-23.

Type Examination documentation

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation testing: IEC 62288 (2021)
- Performance testing: ISO 20673 (2022)

Note: The DEIF Rudder Angle Indicator System does not issue alerts, hence, testing according to IEC 62923-1/-2 is deemed as not being applicable.

Marking of product

According to IEC 60945, Sect.4.9:

The product to be marked with following information, where practicable:

- Identification of the manufacturer,
- Equipment type number or model identification under which it was type tested,
- Serial number of the unit,
- Compass safe distance.

Alternatively, the marking may be presented on a display at equipment start-up, and in case of fixed equipment compass safe distance may be given in the equipment manual.