

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB0000BJD
Revision no.:
0

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 **Electronic Inclinomometer Equipment**

with type designation(s)
EI-1 or ZEI-1 or DanEI-300

issued to

sm electrics GmbH services & more
Schönberg (Holstein), Germany

is found to comply with the Implementing Regulation (EU) 2025/1533 for
Item no. **MED/4.67** (Row 2 of 2)

according to the following requirements:

**SOLAS 74 Reg. V/19, IMO Res. MSC.363(92), 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**

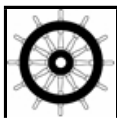
Further details of the equipment and conditions for certification are given overleaf.

Date of issue: **2025-12-19**

Expiry date: **2030-12-18**

DNV local unit:
Hamburg – CMC North/East

Approval Engineer:
Jörg Rebel



Notified Body
no.: **0098**

for **DNV SE**

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Christine Mydlak-Röder
Head of Notified Body

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 electronic inclinometer type EI-1 (or with other brand names ZEI-1 or DanEI-300) comprises of following components necessary for functioning:

1. EI-1 Display Unit, P/N EI1U01
2. EI-1 Sensor Unit, P/N EI1U02
3. Cable kit, P/N EI1K01
4. Mounting plate for sensor unit, P/N EI1U02K01

Software version: V1.x (x ≥ 8)

Optional equipment:

5. Mounting brackets, P/N EI1U01K01
6. Frame for console mounting, P/N EI1U01K02

External interfaces:

- Serial in from INS/CAM acc. to IEC 61162-1/-2
- Serial out to VDR and INS/CAM acc. to IEC 61162-1/-2
- Ethernet in/out for connection with VDR and INS/CAM acc. to IEC 61162-450 and optional slave Display Units

Power supply: 2 x 24 V DC

Application/Limitation

The electronic inclinometer type EI-1 (or ZEI-1 or DanEI-300) is to be installed according to manufacturer's instructions.

Type Examination documentation

Tests carried out

Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)

- Interface testing: IEC 61162-1 (2024), IEC 61162-2 (2024) and IEC 61162-450 (2024)
- Presentation testing: IEC 62288 (2021) incl. Amendment 1 (2024)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: ISO 19697 (2016)

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.