

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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

This is to certify:

That the Magnetic Compass Class B for lifeboats and rescue boats

with type designation(s)

BETA/1, BETA/2, BETA/4, IOTA/1, IOTA/2, T12/1, T12/2 with Trade Names: BETA, IOTA, T12

Issued to

**Cassens & Plath GmbH
Bremerhaven, Germany**

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

Regulation **(EU) 2020/1170,**

item No. MED/4.23. SOLAS 74 as amended, Regulations III/4, III/34 & X/3, IMO Res. MSC.48(66), IMO Res. MSC.36(63), IMO Res. MSC.97(73)

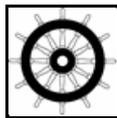
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-11-18.**

Issued at **Hamburg** on **2020-11-19**

DNV GL local station:
Hamburg

Approval Engineer:
Jörg Rebel



Notified Body
No.: **0098**

for **DNV GL SE**

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



Product description

The certificate covers following magnetic compasses Class B for lifeboats and rescue boats:

| Trade name | Type designation | Description | Card diameter [mm] |
|------------|------------------|--|--------------------|
| BETA | BETA/1 | Built-in mounting | 120 |
| | BETA/2 | Set-up mounting | |
| | BETA/4 | Overhead, set-up and built-in mounting | |
| IOTA | IOTA/1 | Built-in mounting | 70 |
| | IOTA/2 | Set-up mounting | |
| T12 | T12/1 | Built-in mounting | 100 |
| | T12/2 | Set-up mounting | |

Application/Limitation

None

Tests carried out

- Environmental testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Performance testing: ISO 1069 (1973) and ISO 25862 (2009)

Type Examination documentation

| DNV GL No | Document ID | Rev. | Description |
|-----------|-------------|------------|---|
| 35 | 2020/04 | 1.0 | Report: Cassens & Plath, Type test report acc. to IEC 25862. Annex B.3 for T12 |
| 34 | 2020/03 | 1.0 | Report: Cassens & Plath, Type test report acc. to IEC 25862. Annex B.3 for IOTA |
| 33 | 2020/02 | 1.0 | Report: Cassens & Plath, Type test report acc. to IEC 25862. Annex B.3 for BETA/4 |
| 32 | 2020/01 | 1.1 | Report: Cassens & Plath, Type test report acc. to IEC 25862. Annex B.3 for BETA/1 and BETA/2 |
| 25 | 11/Wo/034 | 2012-10-10 | Manual: IOTA/2 - Installation & operation |
| 24 | 14/Wo/166B | 2014-11-06 | Manual: IOTA/1 - Installation & operation |
| 23 | 16/Wo/299A | 2016-05-04 | Manual: BETA/4 - Mounting instructions |
| 22 | 13/Wo/015A | 2013-12-19 | Manual: Spherical magnetic compasses - Operation & mounting |
| 21 | - | - | Report: Cassens & Plath, Individual tests acc. to ISO 25862, Annex B.3 for BETA, BETA/4, T12 and IOTA |
| 20 | - | 2020-07-14 | Report: Cassens & Plath, Marking acc. to ISO 25682, Annex B.2 for BETA, BETA/4, IOTA and T12 |
| 19 | - | 2020-07-02 | Manufacturer's statement acc. to ISO 25862, Annex B.1, for T12 |
| 18 | - | 2020-07-02 | Manufacturer's statement acc. to ISO 25862, Annex B.1, for IOTA/2 |
| 17 | - | 2020-07-02 | Manufacturer's statement acc. to ISO 25862, Annex B.1, for IOTA/1 |
| 16 | - | 2020-07-02 | Manufacturer's statement acc. to ISO 25862, Annex B.1, for BETA/4 |
| 15 | - | 2020-07-02 | Manufacturer's statement acc. to ISO 25862, Annex B.1, for BETA/2 |
| 14 | - | 2020-07-02 | Manufacturer's statement acc. to ISO 25862, Annex B.1, for BETA/1 |

| DNV GL No | Document ID | Rev. | Description |
|------------------|--------------------|-------------|--|
| 13 | - | 2020-02 | Manufacturer's declaration for compasses BETA, IOTA and T12 acc. to IEC 60945, Clauses 8.10 and 8.12 |
| 12 | 9804D3011 | 2020-03-09 | Report: Cassens & Plath, Swirl error test acc. to ISO 25862, Clause B.3.7.4, for IOTA |
| 11 | 9804D3005 | 2020-03-09 | Report: Cassens & Plath, Swirl error test acc. to ISO 25862, Clause B.3.7.4, for BETA |
| 10 | 9804D3009 | 2020-03-09 | Report: Cassens & Plath, Swirl error test acc. to ISO 25862, Clause B.3.7.4, for BETA/4 |
| 9 | 9804D3008 | 2020-03-09 | Report: Cassens & Plath, Swirl error test acc. to ISO 25862, Clause B.3.7.4, for T12 |
| 8 | TA-08-02-20 | 2020-02-20 | Report: Raytheon Anschütz, Damp heat test acc. to IEC 60945, Clause 8.3, for IOTA |
| 7 | TA-07-02-20 | 2020-02-20 | Report: Raytheon Anschütz, Damp heat test acc. to IEC 60945, Clause 8.3, for BETA |
| 6 | TA-06-02-20 | 2020-02-19 | Report: Raytheon Anschütz, Damp heat test acc. to IEC 60945, Clause 8.3, for BETA/4 |
| 5 | TA-05-02-20 | 2020-02-19 | Report: Raytheon Anschütz, Damp heat test acc. to IEC 60945, Clause 8.3, for T12 |
| 4 | TA-04-02-20 | 2020-02-13 | Report: Raytheon Anschütz, Vibration test acc. to IEC 60945, Clause 8.7, for IOTA |
| 3 | TA-03-02-20 | 2020-02-12 | Report: Raytheon Anschütz, Vibration test acc. to IEC 60945, Clause 8.7, for BETA |
| 2 | TA-02-02-20 | 2020-02-12 | Report: Raytheon Anschütz, Vibration test acc. to IEC 60945, Clause 8.7, for BETA/4 |
| 1 | TA-01-02-20 | 2020-02-12 | Report: Raytheon Anschütz, Vibration test acc. to IEC 60945, Clause 8.7, for T12 |

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,

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.

According to Article 10 of the Council Directive (MED):

- Wheel mark to be affixed visibly, legibly and indelibly to the product or to its data plate and, where relevant, embedded in its software. Where that is not possible or not warranted on account of the nature of the product, it shall be affixed to the packaging and to the accompanying documents.
- Wheel mark to be affixed at the end of the production phase.

For specific products, manufacturers may use an appropriate and reliable form of electronic tag instead of, or in addition to, the wheel mark.

END OF CERTIFICATE