DNV·GL

Certificate No:
MEDB00003AT

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 Rate-of-turn indicator (ROTI)

with type designation(s)
DEIF Rate of Turn Indicator System

Issued to
DEIF A/S
Skive Midtjylland, Denmark

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2017/306,**
item No. MED/4.9. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.526(13), 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 **2020-04-16**.

Issued at **Hamburg** on **2017-11-21**

DNV GL local station:
Aalborg

Approval Engineer:
Jan Reinecke

Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudszus
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.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

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Job Id: **344.1-007510-1**
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Product description

The ROT Indicator System consists of the following equipment:
XL144, XL192, BRW-2, BW144, BW192, XDi144, XDi192
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

none

Type Examination documentation

DNV GL No	Document Id.	Rev.	Description
13	4910211100D	2016-12-17	Report: EPC 679 XDi Test Data IEC60945
12		2014-06-12	Report: CAN Bus performance test
10		2015-03-27	Report: Test Report Flicker evaluation XDi
8		1.1	Report: Test of a Maritime navigation and radiocommunication equipment and systems IEC 61162-1/-2
3	4921250067D	D	XDi data sheet 4921250067 UK
2	4189350046D	D	XDi quick guide 4189350046 UK
1	4189350049B	B	Manual: Designer's Handbook
-	Miscs		E502501-2 dated 05-11-2004

Tests carried out

Applicable tests according to

- IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008),
- IEC 61162 series:
  - IEC 61162-1 ed4.0 (2010-11)
  - IEC 61162-2 ed1.0 (1998-09)
- ISO 20672:2007 incl Corr 1 (2008),
- IEC 62288 Ed. 2.0 (2014-07)

Marking of product

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

- The wheel mark shall 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.
- The wheel mark shall be affixed at the end of the production phase.
- The wheel mark shall be followed by the identification number of the notified body, where that body is involved in the production control phase, and by the year in which the mark is affixed.
- The identification number of the notified body shall be affixed by the body itself or, under its instructions, by the manufacturer or the manufacturer's authorised representative.

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