DNV·GL

Certificate No:
MEDB000010W

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment (MED) as amended by directive (EU) 2015/559. This Certificate is issued by DNV GL SE based on the notification of the German Federal Ministry of Transport, Building and Urban Development.

This is to certify:

That the Magnetic compass – Class A for ships

with type designation(s)
REFLECTA/3 - Type/21

Issued to
Cassens & Plath GmbH
Bremerhaven, Germany

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/4.1 and Annex B, Module B in the Directive; SOLAS 74 as amended, Regulation V/18 & V/19, IMO Resolution A.382 (X), A.694 (17)

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

This Certificate is valid until **2021-06-21**.

Issued at **Hamburg** on **2016-06-22**

DNV GL local station:
Bremerhaven

Approval Engineer:
Harald Bluhm

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 Council Directive 96/98/EC, as amended.
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.
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: **344.1-005427-3**
Certificate No: **MEDB000010W**

Product description

Components necessary for operation:

1. Standard Compass
Magnetic Compass Class A (N under N) Type / 21
Use alternatively with the binnacles:
- binnacle with correcting devices card height 1200 mm REFLECTA/3

2. Steering Compass Type / 21
Magnetic Compass Class A (N under N)
Use alternatively with the binnacles:
- binnacle with correcting devices card height 1200 mm REFLECTA/3
- alternatively card height between 920 and 1700 mm

Options:

Alternatively, instead of or additional to an optical transmission

	Detector (Sensor)	CP 102 B
	Electronic Unit	NETcourse
	Display Unit	analog:magNEMAcourse
or	Display Unit	digital:magNEMAcourse
or	for the indication of true magnetic heading	TRUEcourse *

Additional equipment:

The repeater compass analog:magNEMAcourse and digital:magNEMAcourse may be used as steering repeater with heading devices with standard IEC 61162-1 or IEC 61162-2 outputs.
The analog:trueNEMAcourse and digital:trueNEMAcourse repeater was tested successfully with the following GPS compasses: Furuno SC 30, SC 50, SC 110, JRC JLR 21 and JLR 31.

Heading difference alarm unit	courseCOMPARATOR
Off heading alarm unit	SENSOcourse

*For the automatic calculation of the true magnetic heading a valid RMC data sentence from an approved Electronic Position Fixing System (EPFS) or manually input of the deviation will be necessary.

Application/Limitation

none

Type Examination documentation

Tests carried out

Functional testing: ISO 25862 (2009)
Environmental testing: IEC 60945 (2002) incl. corr. 1 (2008)
Serial interface testing: IEC 61162-1 (2010), IEC 61162-2 (1998)
Presentation of navigation information: IEC 62288 (2014)

Marking of product

The manufacturer and Type Designation to be applied to the equipment in a clearly visible location and in addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.