DNV·GL

Certificate No:
MEDB00003BG

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Rudder angle indicator

with type designation(s)
AlphaRudder

Issued to
Alphatron Marine B.V.
Rotterdam, Netherlands

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2017/306,**
item No. MED/4.20. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, 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 **2022-11-06**.

Issued at **Høvik** on **2017-11-07**

for **DNV GL AS**

DNV GL local station:
Rotterdam, Product Certification /Verification

Approval Engineer:
Frederik Tore Elter

Notified Body
No.: **0575**

Vidar Dolonen
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 AS 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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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Product description

Rudder angle indicator system AlpharRudder consisting of the following components:

Indicator Type Designation	Indicator Item No.	Display Description	Item No.	Location
AlphaRudder MFM	3109.0188 (Grey), 3109.0190 (black)	6.5 inch display vertical LCD orientation	3803.0242 (grey), 3803.0244 (black)	Exposed

Type Designation	Item No.	Location
Analog Interface Mk.2.	3109.0192	Protected
Alpha Rudder Feedback Unit MD,	3109.0196	Exposed
or Alpha Rudder Feedback Unit HD	3109.0194	Exposed

Application/Limitation

- To be installed in accordance to manufacturers documentation.
- The indicator may present 45, 60, 70 or 90 degrees' rudder angle scales depending on installation and setup.

Type Examination documentation

Tests carried out

- Environmental testing: IEC 60945 (2002)
- Environmental testing: DNVGL-CG-0339
- Interface testing: IEC 61162-1 (2010)
- Performance testing: IEC 62288 (2014)
- Performance testing: ISO 20673 (2007)

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