

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00008HC

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)
Polaris FOG 50, 100, 200

Issued to

GEM elettronica S.r.l.
San Benedetto del Tronto AP, AP, Italy

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

Regulation (EU) 2022/1157,
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)

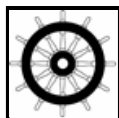
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-09-11**.

Issued at **Hamburg** on **2023-09-12**

DNV local unit:
Italy FIS

Approval Engineer:
Jörg Rebel



Notified Body
No.: **0098**

for **DNV GL SE**

Christine Mydlak-Röder
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) 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. 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 300,000 USD.



Product description

The GEM elettronica Fiber Optic Gyro Compasses POLARIS FOG-50, POLARIS FOG-100 or POLARIS FOG200 system used as input for a rate-of-turn indication system consist of the following parts necessary for functioning:

Gyro Compass Assembly: Type: FGC-50, FGC-100 or FGC-200

Software Version 7.xxx

Display Unit: Type: DU68-27

Software Version 5.x

Optional equipment:

- Power supply unit Type: PSU18000

- Interface unit Type: IU80-11

Features:

7 serial interfaces in accordance with IEC 61162 series.

Power supply DC 24V

Documentation:

- User manuals: MUPF200200E, MUPF200210E, MUPF200240E
- Installation manuals: MIPF200200E, MIPF200210E, MIPF200240E
- Service manuals: MAMPF200200E, MAMPF200210E, MAMPF200240E

Application/Limitation

The rate-of-turn functionality is available only with a rate-of-turn indicator, type-approved according to IMO performance requirements.

The GEM elettronica Fiber Optic Gyro Compasses POLARIS FOG-50, POLARIS FOG-100 and POLARIS FOG200 fulfil the carriage requirements of 2000 HSC Code, 13.

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation testing: IEC 62288 (2021)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: ISO 20672 (2007) incl. Corrigendum 1(2008)

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.

END OF CERTIFICATE