DNV·GL

Certificate No:
MEDB00000F3

EC-TYPE EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2014/93/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Gyro compass

with type designation(s)
MGC R3

Issued to
Kongsberg Seatex AS
TRONDHEIM, Norway

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/4.3 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation V/18 & V/19, IMO Resolution A.424 (XI) & A.694(17), IMO Resolution MSC. 191 (79)

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

Høvik, 2015-12-18
for **DNV GL AS**

This Certificate is valid until
2020-12-17

Notified Body No.: **0575**

Vidar Dolonen
Head of Department

DNV GL local office:
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Surveyor

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Job Id: **344.1-004921-1**
Certificate No: **MEDB00000F3**

Product description

The MGC R3 COMPASS system is a north-seeking gyro compass based on three ring laser gyros and three linear accelerometers. The system can be operated as a gyro compass and as an inertial navigation system with output of heading and position.

The MGC R3 COMPASS system consists of the following modules:

Component	Article no	Software
• Sensor unit	MGC-R3-COMPASS	5.03.xx
• MGC configuration software	MGC-SW-ED	
• Angle bracket	MGC-M-AB1	
• MGC junction box	MGC-E-JB4	
• MGC repeater junction box	MGC-E-JB5	
• MGC data cable	MRU-E-CS8	
• Ethernet cable (shielded)	MRU-E-CE2	

External interfaces:

• COM1 through COM4	Serial port, bidirectional RS-422 according to IEC 61162
• COM 5	Serial port, output RS-422 and PPS port input RS-422
• Ethernet	5 pcs 10/100 Mbps ports

Application/Limitation

- Installation to be performed according to manufacturer's Installation Manual
- In order for the MGC R3 COMPASS to meet the requirements of SOLAS V/19.2.5 the following equipment, approved by the organization, may have to be included:
    - Gyro-compass heading repeaters able to receive the HDT – Heading True sentence according to IEC 61162-1(2014).
    - Gyro-compass bearing repeaters able to receive the HDT – Heading True sentence according to IEC 61162-1(2014).

Type Examination documentation

DNV GL No	Description	Rev.
1	REPORT: Applica EMC and Environmental testing, Report no. : 20664	1
2	REPORT: Test report Kongsberg Seatex for MGC R3 Compass	2.1
3	MANUAL: MGC R3 Installation manual	1
4	MANUAL: MGC R3 Operator manual	1
5	DRAWING: MGJB – Interfaces	A

Tests carried out

- Performance testing: ISO 16328 (2014)
- Serial interface testing: IEC 61162-1(2010)
- Serial interface testing (high speed): IEC 61162-2(1998)
- Environmental testing: IEC 60945 (2002), including IEC 60945 Corr.1 (2008)

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.

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

USCG Approval

An 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 United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005.