

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB0000598
Revision No:
3

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 AS under the authority of the Government of Norway.

This is to certify:

that the **Fixed oxygen analysis and gas detection equipment: category 4: (safe area)**

with type designation(s)

G36a Oxygen Analyzer (standalone), G36p Oxygen Analyzer (panel mounted)

issued to

Green Instruments A/S
Brønderslev, Nordjylland, Denmark

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

Regulation (EU) 2023/1667, IACS UR E10 Rev. 8/rev. 9,

item No. MED/3.54a. SOLAS 74 as amended, Regulation II-2/4 & VI/3 and FSS Code 15, IMO MSC.1/Circ.1370

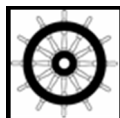
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2029-05-09**.

Issued at **Høvik** on **2024-05-13**

DNV local unit:
Denmark CMC

Approval Engineer:
Frode Nygård



Notified Body
No.: **0575**

for **DNV AS**

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Mydlak-Röder, Christine
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 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

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 G36a/G36p Oxygen Analyzer is designed to measure (by inertization) the content of oxygen with concentration from 0% up to 25% O₂.

The G36a/G36p Oxygen Analyzer can be used to measure the content of oxygen in stack gas or in the nitrogen or flue gas based inert gas, and continuous monitoring of oxygen level in the atmosphere in engine room compartments or room for inert gas systems or accommodation area.

G36a is a standalone version, while G36p is a version prepared to be front panel mounted.

Software version: 2.16

Application/Limitation

The analyzer shall be installed in safe area, and in area with no high concentration of methane.

The equipment is found to comply with following location/application dependent requirements (for definition of each of the location classes, see below the table):

EQUIPMENT	TEMPERATURE	VIBRATION	EMC	ENCLOSURE
G36a	TEM-B	VIB-A	EMC-A	ENC-C
G36p	TEM-B	VIB-A	EMC-A	ENC-B

Definition of the location classes with reference to relevant standards:

Temperature:	TEM-B: Location (5°C-70°C)	(ref. IEC 60092-504:2016 table 1 item 6-7)
Vibration:	VIB-A: General applications (±1 mm / ±0.7 g)	(ref. IEC 60092-504:2016 table 1 item 10)
EMC:	EMC-A: General power distribution zones	(ref. IEC 60092-504:2016 table 1 item 13-20)
Enclosure:	ENC-B: Engine room (IP55)	(ref. IEC 60092-504:2016 table 1 item 9 and 12)
	ENC-C: Open deck (IP66/67)	(ref. IEC 60092-504:2016 table 1 item 9 and 12)

Type Examination documentation

	Doc. No.	Rev. / Date	Description
Manuals:	104631	1.0 / 03/2024	User Manual - G36a Oxygen Analyzer
	104991	1.0 / 03/2024	User Manual - G36p Oxygen Analyzer
Test plan:	-	2023-12-19	Test Plan (Stability) - G36 Oxygen Analyzer
	-	2024-02-28	Test Plan/Test Report - Performance test (DNV Witnessed)
Test reports	P17-0136	2017-12-28	Marine tests of G36 and G36p
	P20-0098-C1	1 / 2020-06-23	Test report supplementary EMC up to 6GHz
	P24-0020-1	1 / 2024-03-25	Test report IACS UR E10
	P24-0020-2	1 / 2024-03-25	Test report EN50104:2019 / EN50270
			Review of IEC 60092-504:2016 & IEC 60533:2015 in relation to the G36 and G36p dated Sep. 2017

Tests carried out

Applicable tests according to:

- IEC 60092-504:2016
- IEC 60533:2015
- EN 50104:2019 (safe area)

Marking of product

For identification to this type examination certificate the products shall be marked with:

- Manufacturer's name or trade mark
- Type designation
- Mark of Conformity (wheel mark), followed by
 - identification number of the NoBo involved in production control (MED D)
 - the year the mark is affixed
 - Example: 0575/2024