

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00006D2

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

with type designation(s)
IR Gas Detector PG11/PGE11

Issued to

Optronics Technology AS
Oslo, Norway

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

Regulation (EU) 2020/1170,
item No. MED/3.54. SOLAS 74 as amended, Regulation II-2/4 & VI/3 and FSS Code 15

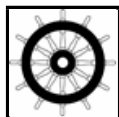
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2026-06-17**.

Issued at **Høvik** on **2021-06-18**

DNV local station:
Norway CMC, East-South

Approval Engineer:
Frode Nygård



Notified Body
No.: **0575**

for **DNV AS**

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Sverre Olav Bergli
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 Optronics PG11 and PGE11 are explosion proof, rugged Optical Gas Detectors for the detection of flammable gases and CO₂. Ranges are available for lower explosive limit (LEL) and %Vol and the detector provides a 4 to 20 mA analog output proportional to the concentration.

The detectors are self-monitored and have built-in condition monitoring of all important HW and SW functions and optical parts.

The detectors can be integrated into other systems or used stand alone.

Place of manufacture

Optronics Technology AS.
Oslo, Norway

Application/Limitation

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

The equipment are found to comply with following location/application dependent requirements:

Temperature:	TEM-D: Tested at -25°C to +70°C (ref. IEC 60092-504:2016 table 1 item 6-7)
	Note: performance test carried out at -40°C
Vibration:	VIB-B: Tested at ±1mm/ 4.0g (ref. IEC 60092-504:2016 table 1 item 10)
EMC:	EMC-B: Bridge and open deck zone (ref. IEC 60092-504:2016 table 1 item 13-20)
Enclosure:	ENC-C: (IP66/IP67) Open deck (ref. IEC 60092-201:1994 table 5)

Type Examination documentation

Tests carried out

The relevant tests have been carried out according to the following standards:

- IEC 60092-504:2016
- IEC 60533:2015
- EN 60079-29-1:2016
- EN 60079-0:2018

Marking of product

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

- Manufacturer's name or trademark
- 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: 0575/2021